Azolopyrimidine compounds and use thereof for combating parasitic fungi

Description

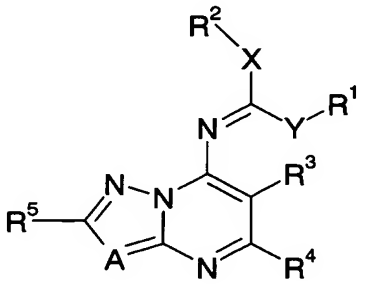
The present invention relates to novel azolopyrimidine compounds and to their use for controlling harmful fungi, and to crop protection compositions comprising such compounds as active ingredients.

EP-A 71792, US 5,994,360, EP-A 550113, DE-A 10223917, WO 02/48151 and WO 03/080615 describe fungicidally active pyrazolo[1,5-a]pyrimidines and triazolo[1,5a]pyrimidines carrying an optionally substituted phenyl group in the 6-position of the azolopyrimidine ring and NH_2 or a primary or secondary amino group in the 7-position. Similar triazolopyrimidines having, instead of the optionally substituted phenyl ring, an optionally substituted and/or unsaturated aliphatic or cycloaliphatic radical in the 6-position and carrying NH_2 or a primary or secondary amino group in the 7-position are known from WO 03/009687.

Some of the azolopyrimidines known from the prior art are, with respect to their fungicidal action, unsatisfactory, or they have unwanted properties, such as poor crop plant compatibility.

Accordingly, it is an object of the present invention to provide novel compounds having improved fungicidal activity and/or better crop plant compatibility.

Surprisingly, this object is achieved by azolopyrimidine compounds of the formula I



(I)

in which

A is N or C-R^6;

X, Y independently of one another are a chemical bond or oxygen, sulfur or a group N-R^7;

R^1, R^2 independently of one another are C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, C_4-C_{10}-alkadienyl, C_2-C_{10}-alkynyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, C_5-C_{10}-bicycloalkyl, phenyl, phenyl-C_1-C_4-alkyl, naphthyl, naphthyl-C_1-C_4-alkyl, 5- or 6-membered saturated, partially unsaturated or aromatic heterocyclyl or heterocyclyl-C_1-C_4-alkyl which may in each case have 1, 2 or 3 hetero atoms selected from the group consisting of N, O and S as ring members, where some or all of the radicals mentioned as R^1, R^2 may be halogenated or may have 1, 2, 3 or 4 radicals R^8, where

Y-R^1 and X-R^2 together with the carbon atom, to which they are attached, may also form a 5-, 6- or 7-membered saturated or unsaturated carbo- or heterocycle, where the latter may have 1, 2, 3 or 4 heteroatoms selected from the group consisting of O, S and N as ring members, where the carbo- and the heterocycle may be partially or fully halogenated or have 1, 2, 3 or 4 of the radicals R^7 and/or R^8; where

Y-R^1 and X-R^2 independently of one another may also be hydrogen, CN, NO_2 or halogen and where one of the radicals Y-R^1 and X-R^2 may also be OH, SH or NH_2;

R^3 is C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, C_4-C_{10}-alkadienyl, C_2-C_{10}-alkynyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, C_5-C_{10}-bicycloalkyl, phenyl, phenyl-C_1-C_4-alkyl, naphthyl, a 5- or 6-membered saturated, partially unsaturated or aromatic heterocycle which may have 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members,
where the radicals mentioned as R^3 may be partially or fully halogenated or may have 1, 2, 3 or 4 radicals R^9;

R^4 is halogen, cyano, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, OR^{10}, SR^{10}, $NR^{11}R^{12}$, $CH_2NR^{11}R^{12}$ or $C(W)R^{13}$;

R^5, R^6 independently of one another are hydrogen, CN, NO_2, NH_2, CH_2NH_2, halogen, $C(W)R^{13}$, $C(=N\text{-}OR^{15})R^{14}$, $NHC(W)R^{16}$, C_1-C_6-haloalkyl, C_1-C_4-alkyl or C_2-C_4-alkenyl;

R^7 is hydrogen, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkyl, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkenyloxy, CN or $C(W)R^{17}$;

R^8 is selected from the group consisting of halogen, cyano, nitro, OH, SH, $NR^{18}R^{19}$, C_1-C_6-alkyl, C_3-C_8-cycloalkyl, C_1-C_6-alkoxy, hydroxy-C_1-C_6-alkyl, hydroxy-C_1-C_6-alkoxy, C_1-C_6-alkoxy-C_1-C_6-alkyl, C_1-C_6-alkoxy-C_1-C_6-alkoxy, C_1-C_6-haloalkyl, C_1-C_6-haloalkoxy, C_1-C_6-alkylthio, C_2-C_6-alkenyl, C_2-C_6-alkenyloxy, C_2-C_6-alkynyl, C_2-C_6-alkynyloxy, C_1-C_6-alkylamino, $C(W)R^{13}$,

$C(=N\text{-}OR^{15})R^{14}$, $NHC(W)R^{16}$, tris-C_1-C_6-alkylsilyl and phenyl which for its part may have 1, 2 or 3 radicals selected from the group consisting of cyano, nitro, halogen, OH, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkyl, C_1-C_6-haloalkoxy and C_1-C_6-alkylthio;

R^9 is halogen, cyano, NH_2, NO_2, C_1-C_6-alkyl, C_3-C_8-cycloalkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkyl, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl, C_2-C_6-alkenyloxy, $C(W)R^{13}$, $C(=N\text{-}OR^{15})R^{14}$ or $NHC(W)R^{16}$;

R^{10} is hydrogen, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_2-C_6-alkenyl or $C(W)R^{13}$;

R^{11}, R^{12} independently of one another are hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_4-C_6-alkadienyl, C_2-C_6-alkynyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, where the radicals mentioned as R^{11}, R^{12} may be partially or fully halogenated or have 1, 2, 3 or 4 radicals R^8, where R^{11} may also be a group $C(W)R^{13}$ and where

R^{11}, R^{12} together with the nitrogen atom, to which they are attached, may also form a 5-, 6- or 7-membered saturated or unsaturated heterocycle which may additionally have 1, 2 or 3 further heteroatoms selected from the group consisting of O, S and N as ring members, where the heterocycle may be partially or fully halogenated and/or may have 1, 2, 3 or 4 of the radicals R^8;

R^{13} is hydrogen, OH, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkyl, C_1-C_6-haloalkoxy, C_2-C_6-alkenyl or $NR^{18}R^{19}$;

R^{14}, R^{15} independently of one another are hydrogen or C_1-C_6-alkyl;

R^{16}, R^{17} independently of one another are hydrogen, C_1-C_6-alkyl, C_1-C_6-alkoxy, NH_2, C_1-C_6-alkylamino or di-C_1-C_6-alkylamino;

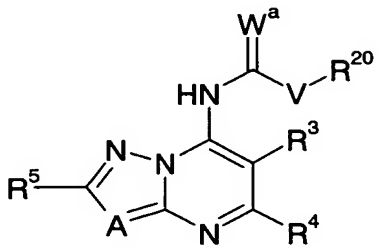
R^{18}, R^{19} independently of one another have the meanings mentioned for R^{11} and R^{12}; and

W is oxygen or sulfur;

by the tautomers of the compounds I and by the agriculturally acceptable salts of the compounds I and their tautomers.

The present invention thus provides the azolopyrimidine compounds of the formula I and their agriculturally acceptable salts. The invention also provides their tautomers and the agriculturally acceptable salts of these tautomers.

Tautomers of azolopyrimidine compounds of the formula I are in particular the compounds of the formula II below



(II)

in which A, R^3, R^4 and R^5 have the meanings given above for formula I,

V is a chemical bond or is oxygen, sulfur or a group N-R^7;

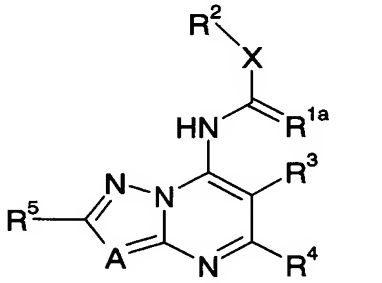
W^a is O, S or a group N-R^{21};

R^{20} has one of the meanings given in formula I for R^1 or R^2;

R^{21} has one of the meanings given in formula I for R^1 or R^2, where R^{21} may also be hydrogen; and

if W^a is N-R^{21}, V-R^{20} and N-R^{21} together with the carbon atom, to which they are attached, may form a 5-, 6- or 7-membered unsaturated heterocycle, where the latter may have 1, 2, 3 or 4 heteroatoms selected from the group consisting of O, S and N as ring members, may be partially or fully halogenated or have 1, 2, 3 or 4 of the radicals R^8 mentioned above. These are tautomers of those compounds of the formula I in which one of the radicals Y-R^1 or X-R^2 is OH, SH, NH_2 or NHR^1 or NHR^2 (i.e. R^7 is hydrogen).

Tautomers of compounds of the formula I also include compounds of the formula II'.



(II')

in which A, X, R^2, R^3, R^4 and R^5 have the meanings given above and R^{1a} corresponds to the radical R^1 minus one hydrogen atom at the point of attachment. These are

tautomers of compounds of the formula I in which Y is a single bond and R^1 has at least one enolizable hydrogen atom. In the tautomers of the formula II', R^{1a} and X-R^2 together with the carbon atom, to which they are attached, may also form a 5-, 6- or 7-membered unsaturated carbo- or heterocycle, where the latter may have 1, 2, 3 or 4 heteroatoms selected from the group consisting of O, S and N as ring members, where the carbo- and the heterocycle may be partially or fully halogenated or have 1, 2, 3 or 4 of the radicals R^7 and/or R^8 as substituents.

The present invention furthermore provides the use of the azolopyrimidine compounds of the formula I, their tautomers and their agriculturally acceptable salts for controlling phytopathogenic fungi (= harmful fungi) and a method for controlling phytopathogenic harmful fungi which comprises treating the fungi or the materials, plants, the soil or seeds to be protected against fungal attack with an effective amount of a compound of the formula I, a tautomer of I and/or with an agriculturally acceptable salt of I or its tautomer.

The present invention furthermore provides compositions for controlling harmful fungi, which compositions comprise at least one compound of the formula I, a tautomer of I and/or an agriculturally acceptable salt thereof or of its tautomer and at least one liquid or solid carrier.

Depending on the substitution pattern, the compounds of the formula I and their tautomers may have one or more centers of chirality, in which case they are present as mixtures of enantiomers or diastereomers. The invention provides both the pure enantiomers or diastereomers and their mixtures.

Suitable agriculturally useful salts are especially the salts of those cations or the acid addition salts of those acids whose cations and anions, respectively, have no adverse effect on the fungicidal action of the compounds I or their tautomers. Thus, suitable cations are in particular the ions of the alkali metals, preferably sodium and potassium, of the alkaline earth metals, preferably calcium, magnesium and barium, and of the transition metals, preferably manganese, copper, zinc and iron, and the ammonium ion which, if desired, may carry one to four C_1-C_4-alkyl substituents and/or one phenyl or benzyl substituent, preferably diisopropylammonium, tetramethylammonium, tetrabutyl-ammonium, trimethylbenzylammonium, furthermore phosphonium ions, sulfonium ions, preferably tri(C_1-C_4-alkyl)sulfonium, and sulfoxonium ions, preferably tri(C_1-C_4-alkyl)-sulfoxonium.

Anions of useful acid addition salts are primarily chloride, bromide, fluoride, hydrogen-sulfate, sulfate, dihydrogenphosphate, hydrogenphosphate, phosphate, nitrate,

bicarbonate, carbonate, hexafluorosilicate, hexafluorophosphate, benzoate, and the anions of C_1-C_4-alkanoic acids, preferably formate, acetate, propionate and butyrate. They can be formed by reacting I with an acid of the corresponding anion, preferably hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid or nitric acid.

In the definitions of the variables given in the above formulae, collective terms are used which are generally representative of the substituents in question. The term C_n-C_m indicates the number of carbon atoms possible in each case in the substituent or substituent moiety in question:

halogen: fluorine, chlorine, bromine and iodine;

alkyl and the alkyl moieties in alkoxy, alkylthio, alkoxyalkyl, alkoxyalkoxy, alkylamino and dialkylamino: saturated straight-chain or branched hydrocarbon radicals having 1 to 4, up to 6, up to 8 or up to 10 carbon atoms, for example C_1-C_6-alkyl, such as methyl, ethyl, propyl, 1-methylethyl, butyl, 1-methylpropyl, 2-methylpropyl, 1,1-dimethylethyl, pentyl, 1-methylbutyl, 2-methylbutyl, 3-methylbutyl, 2,2-dimethylpropyl, 1-ethylpropyl, hexyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, 1-methylpentyl, 2-methylpentyl, 3-methylpentyl, 4-methylpentyl, 1,1-dimethylbutyl, 1,2-dimethylbutyl, 1,3-dimethylbutyl, 2,2-dimethylbutyl, 2,3-dimethylbutyl, 3,3-dimethylbutyl, 1-ethylbutyl, 2-ethylbutyl, 1,1,2-trimethylpropyl, 1,2,2-trimethylpropyl, 1-ethyl-1-methylpropyl and 1-ethyl-2-methylpropyl;

haloalkyl: straight-chain or branched alkyl groups having 1 to 4, up to 6, up to 8 or up to 10 carbon atoms (as mentioned above), where some or all of the hydrogen atoms in these groups may be replaced by halogen atoms as mentioned above, for example C_1-C_2-haloalkyl, such as chloromethyl, bromomethyl, dichloromethyl, trichloromethyl, fluoromethyl, difluoromethyl, trifluoromethyl, chlorofluoromethyl, dichlorofluoromethyl, chlorodifluoromethyl, 1-chloroethyl, 1-bromoethyl, 1-fluoroethyl, 2-fluoroethyl, 2,2-difluoroethyl, 2,2,2-trifluoroethyl, 2-chloro-2-fluoroethyl, 2-chloro-2,2-difluoroethyl, 2,2-dichloro-2-fluoroethyl, 2,2,2-trichloroethyl, pentafluoroethyl and 1,1,1-trifluoroprop-2-yl;

alkenyl: monounsaturated straight-chain or branched hydrocarbon radicals having 2 to 4, up to 6, up to 8 or up to 10 carbon atoms and a double bond in any position, for example C_2-C_6-alkenyl, such as ethenyl, 1-propenyl, 2-propenyl, 1-methylethenyl, 1-butenyl, 2-butenyl, 3-butenyl, 1-methyl-1-propenyl, 2-methyl-1-propenyl, 1-methyl-2-propenyl, 2-methyl-2-propenyl, 1-pentenyl, 2-pentenyl, 3-pentenyl, 4-pentenyl, 1-methyl-1-butenyl, 2-methyl-1-butenyl, 3-methyl-1-butenyl, 1-methyl-2-butenyl, 2-methyl-2-butenyl, 3-methyl-2-butenyl, 1-methyl-3-butenyl, 2-methyl-3-butenyl, 3-methyl-3-butenyl, 1,1-dimethyl-2-propenyl, 1,2-dimethyl-1-propenyl, 1,2-dimethyl-2-

propenyl, 1-ethyl-1-propenyl, 1-ethyl-2-propenyl, 1-hexenyl, 2-hexenyl, 3-hexenyl, 4-hexenyl, 5-hexenyl, 1-methyl-1-pentenyl, 2-methyl-1-pentenyl, 3-methyl-1-pentenyl, 4-methyl-1-pentenyl, 1-methyl-2-pentenyl, 2-methyl-2-pentenyl, 3-methyl-2-pentenyl, 4-methyl-2-pentenyl, 1-methyl-3-pentenyl, 2-methyl-3-pentenyl, 3-methyl-3-pentenyl, 4-methyl-3-pentenyl, 1-methyl-4-pentenyl, 2-methyl-4-pentenyl, 3-methyl-4-pentenyl, 4-methyl-4-pentenyl, 1,1-dimethyl-2-butenyl, 1,1-dimethyl-3-butenyl, 1,2-dimethyl-1-butenyl, 1,2-dimethyl-2-butenyl, 1,2-dimethyl-3-butenyl, 1,3-dimethyl-1-butenyl, 1,3-dimethyl-2-butenyl, 1,3-dimethyl-3-butenyl, 2,2-dimethyl-3-butenyl, 2,3-dimethyl-1-butenyl, 2,3-dimethyl-2-butenyl, 2,3-dimethyl-3-butenyl, 3,3-dimethyl-1-butenyl, 3,3-dimethyl-2-butenyl, 1-ethyl-1-butenyl, 1-ethyl-2-butenyl, 1-ethyl-3-butenyl, 2-ethyl-1-butenyl, 2-ethyl-2-butenyl, 2-ethyl-3-butenyl, 1,1,2-trimethyl-2-propenyl, 1-ethyl-1-methyl-2-propenyl, 1-ethyl-2-methyl-1-propenyl and 1-ethyl-2-methyl-2-propenyl;

alkadienyl: doubly unsaturated straight-chain or branched hydrocarbon radicals having 4 to 10 carbon atoms and two double bonds in any position, for example 1,3-butadienyl, 1-methyl-1,3-butadienyl, 2-methyl-1,3-butadienyl, penta-1,3-dien-1-yl, hexa-1,4-dien-1-yl, hexa-1,4-dien-3-yl, hexa-1,4-dien-6-yl, hexa-1,5-dien-1-yl, hexa-1,5-dien-3-yl, hexa-1,5-dien-4-yl, hepta-1,4-dien-1-yl, hepta-1,4-dien-3-yl, hepta-1,4-dien-6-yl, hepta-1,4-dien-7-yl, hepta-1,5-dien-1-yl, hepta-1,5-dien-3-yl, hepta-1,5-dien-4-yl, hepta-1,5-dien-7-yl, hepta-1,6-dien-1-yl, hepta-1,6-dien-3-yl, hepta-1,6-dien-4-yl, hepta-1,6-dien-5-yl, hepta-1,6-dien-2-yl, octa-1,4-dien-1-yl, octa-1,4-dien-2-yl, octa-1,4-dien-3-yl, octa-1,4-dien-6-yl, octa-1,4-dien-7-yl, octa-1,5-dien-1-yl, octa-1,5-dien-3-yl, octa-1,5-dien-4-yl, octa-1,5-dien-7-yl, octa-1,6-dien-1-yl, octa-1,6-dien-3-yl, octa-1,6-dien-4-yl, octa-1,6-dien-5-yl, octa-1,6-dien-2-yl, deca-1,4-dienyl, deca-1,5-dienyl, deca-1,6-dienyl, deca-1,7-dienyl, deca-1,8-dienyl, deca-2,5-dienyl, deca-2,6-dienyl, deca-2,7-dienyl, deca-2,8-dienyl and the like;

alkynyl: straight-chain or branched hydrocarbon groups having 2 to 4, 2 to 6, 2 to 8 or 2 to 10 carbon atoms and a triple bond in any position, for example C_2-C_6-alkynyl, such as ethynyl, 1-propynyl, 2-propynyl, 1-butynyl, 2-butynyl, 3-butynyl, 1-methyl-2-propynyl, 1-pentynyl, 2-pentynyl, 3-pentynyl, 4-pentynyl, 1-methyl-2-butynyl, 1-methyl-3-butynyl, 2-methyl-3-butynyl, 3-methyl-1-butynyl, 1,1-dimethyl-2-propynyl, 1-ethyl-2-propynyl, 1-hexynyl, 2-hexynyl, 3-hexynyl, 4-hexynyl, 5-hexynyl, 1-methyl-2-pentynyl, 1-methyl-3-pentynyl, 1-methyl-4-pentynyl, 2-methyl-3-pentynyl, 2-methyl-4-pentynyl, 3-methyl-1-pentynyl, 3-methyl-4-pentynyl, 4-methyl-1-pentynyl, 4-methyl-2-pentynyl, 1,1-dimethyl-2-butynyl, 1,1-dimethyl-3-butynyl, 1,2-dimethyl-3-butynyl, 2,2-dimethyl-3-butynyl, 3,3-dimethyl-1-butynyl, 1-ethyl-2-butynyl, 1-ethyl-3-butynyl, 2-ethyl-3-butynyl and 1-ethyl-1-methyl-2-propynyl;

cycloalkyl: monocyclic saturated hydrocarbon groups having 3 to 8, preferably up to 6

carbon ring members, such as cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl;

cycloalkenyl: monocyclic monounsaturated hydrocarbon groups having 5 to 8, preferably up to 6 carbon ring members, such as cyclopenten-1-yl, cyclopenten-3-yl, cyclohexen-1-yl, cyclohexen-3-yl and cyclohexen-4-yl;

bicycloalkyl: a bicyclic hydrocarbon radical having 5 to 10 carbon atoms, such as bicyclo[2.2.1]hept-1-yl, bicyclo[2.2.1]hept-2-yl, bicyclo[2.2.1]hept-7-yl, bicyclo[2.2.2]oct-1-yl, bicyclo[2.2.2]oct-2-yl, bicyclo[3.3.0]octyl and bicyclo[4.4.0]decyl.

alkylamino: an alkyl group attached via an NH group, such as methylamino, ethylamino, n-propylamino, isopropylamino, n-butylamino and the like;

dialkylamino: a radical of the formula $N(alkyl)_2$, in which alkyl is one of the alkyl radicals mentioned above having generally 1 to 6 and in particular 1 to 4 carbon atoms, for example dimethylamino, diethylamino, methylethylamino, N-methyl-N-propylamino and the like;

C_1-C_4-alkoxy: an alkyl group having 1 to 4 carbon atoms which is attached via oxygen, for example methoxy, ethoxy, n-propoxy, 1-methylethoxy, butoxy, 1-methylpropoxy, 2-methylpropoxy or 1,1-dimethylethoxy;

C_1-C_6-alkoxy: C_1-C_4-alkoxy as mentioned above, and also, for example, pentoxy, 1-methylbutoxy, 2-methylbutoxy, 3-methylbutoxy, 1,1-dimethylpropoxy, 1,2-dimethylpropoxy, 2,2-dimethylpropoxy, 1-ethylpropoxy, hexoxy, 1-methylpentoxy, 2-methylpentoxy, 3-methylpentoxy, 4-methylpentoxy, 1,1-dimethylbutoxy, 1,2-dimethylbutoxy, 1,3-dimethylbutoxy, 2,2-dimethylbutoxy, 2,3-dimethylbutoxy, 3,3-dimethylbutoxy, 1-ethylbutoxy, 2-ethylbutoxy, 1,1,2-trimethylpropoxy, 1,2,2-trimethylpropoxy, 1-ethyl-1-methylpropoxy or 1-ethyl-2-methylpropoxy;

C_1-C_4-haloalkoxy: a C_1-C_4-alkoxy radical as mentioned above which is partially or fully substituted by fluorine, chlorine, bromine and/or iodine, preferably by fluorine, i.e., for example, OCH_2F, $OCHF_2$, OCF_3, OCH_2Cl, $OCHCl_2$, $OCCl_3$, chlorofluoromethoxy, dichlorofluoromethoxy, chlorodifluoromethoxy, 2-fluoroethoxy, 2-chloroethoxy, 2-bromoethoxy, 2-iodoethoxy, 2,2-difluoroethoxy, 2,2,2-trifluoroethoxy, 2-chloro-2-fluoroethoxy, 2-chloro-2,2-difluoroethoxy, 2,2-dichloro-2-fluoroethoxy, 2,2,2-trichloroethoxy, OC_2F_5, 2-fluoropropoxy, 3-fluoropropoxy, 2,2-difluoropropoxy, 2,3-difluoropropoxy, 2-chloropropoxy, 3-chloropropoxy, 2,3-dichloropropoxy, 2-bromopropoxy, 3-bromopropoxy, 3,3,3-trifluoropropoxy, 3,3,3-trichloropropoxy, OCH_2-C_2F_5, OCF_2-C_2F_5, 1-(CH_2F)-2-fluoroethoxy, 1-(CH_2Cl)-2-chloroethoxy, 1-(CH_2Br)-2-bromo-

ethoxy, 4-fluorobutoxy, 4-chlorobutoxy, 4-bromobutoxy or nonafluorobutoxy;

C_1-C_6-haloalkoxy: C_1-C_4-haloalkoxy as mentioned above, and also, for example, 5-fluoropentoxy, 5-chloropentoxy, 5-bromopentoxy, 5-iodopentoxy, undecafluoropentoxy, 6-fluorohexoxy, 6-chlorohexoxy, 6-bromohexoxy, 6-iodohexoxy or dodecafluorohexoxy;

alkenyloxy: alkenyl as mentioned above which is attached via an oxygen atom, for example C_2-C_6-alkenyloxy, such as vinyloxy, 1-propenyloxy, 2-propenyloxy, 1-methylethenyloxy, 1-butenyloxy, 2-butenyloxy, 3-butenyloxy, 1-methyl-1-propenyloxy, 2-methyl-1-propenyloxy, 1-methyl-2-propenyloxy, 2-methyl-2-propenyloxy, 1-pentenyloxy, 2-pentenyloxy, 3-pentenyloxy, 4-pentenyloxy, 1-methyl-1-butenyloxy, 2-methyl-1-butenyloxy, 3-methyl-1-butenyloxy, 1-methyl-2-butenyloxy, 2-methyl-2-butenyloxy, 3-methyl-2-butenyloxy, 1-methyl-3-butenyloxy, 2-methyl-3-butenyloxy, 3-methyl-3-butenyl, 1,1-dimethyl-2-propenyloxy, 1,2-dimethyl-1-propenyloxy, 1,2-dimethyl-2-propenyloxy, 1-ethyl-1-propenyloxy, 1-ethyl-2-propenyloxy, 1-hexenyloxy, 2-hexenyloxy, 3-hexenyloxy, 4-hexenyloxy, 5-hexenyloxy, 1-methyl-1-pentenyloxy, 2-methyl-1-pentenyloxy, 3-methyl-1-pentenyloxy, 4-methyl-1-pentenyloxy, 1-methyl-2-pentenyloxy, 2-methyl-2-pentenyloxy, 3-methyl-2-pentenyloxy, 4-methyl-2-pentenyloxy, 1-methyl-3-pentenyloxy, 2-methyl-3-pentenyloxy, 3-methyl-3-pentenyloxy, 4-methyl-3-pentenyloxy, 1-methyl-4-pentenyloxy, 2-methyl-4-pentenyloxy, 3-methyl-4-pentenyloxy, 4-methyl-4-pentenyloxy, 1,1-dimethyl-2-butenyloxy, 1,1-dimethyl-3-butenyloxy, 1,2-dimethyl-1-butenyloxy, 1,2-dimethyl-2-butenyloxy, 1,2-dimethyl-3-butenyloxy, 1,3-dimethyl-1-butenyloxy, 1,3-dimethyl-2-butenyloxy, 1,3-dimethyl-3-butenyloxy, 2,2-dimethyl-3-butenyloxy, 2,3-dimethyl-1-butenyloxy, 2,3-dimethyl-2-butenyloxy, 2,3-dimethyl-3-butenyloxy, 3,3-dimethyl-1-butenyloxy, 3,3-dimethyl-2-butenyloxy, 1-ethyl-1-butenyloxy, 1-ethyl-2-butenyloxy, 1-ethyl-3-butenyloxy, 2-ethyl-1-butenyloxy, 2-ethyl-2-butenyloxy, 2-ethyl-3-butenyloxy, 1,1,2-trimethyl-2-propenyloxy, 1-ethyl-1-methyl-2-propenyloxy, 1-ethyl-2-methyl-1-propenyloxy and 1-ethyl-2-methyl-2-propenyloxy;

alkynyloxy: alkynyl as mentioned above which is attached via an oxygen atom, for example C_3-C_6-alkynyloxy, such as 2-propynyloxy, 2-butynyloxy, 3-butynyloxy, 1-methyl-2-propynyloxy, 2-pentynyloxy, 3-pentynyloxy, 4-pentynyloxy, 1-methyl-2-butynyloxy, 1-methyl-3-butynyloxy, 2-methyl-3-butynyloxy, 1-ethyl-2-propynyloxy, 2-hexynyloxy, 3-hexynyloxy, 4-hexynyloxy, 5-hexynyloxy, 1-methyl-2-pentynyloxy, 1-methyl-3-pentynyloxy and the like;

a five- to seven-membered saturated, partially unsaturated or aromatic heterocycle or heterocyclyl which contains one, two or three heteroatoms from the group consisting of O, N and S:

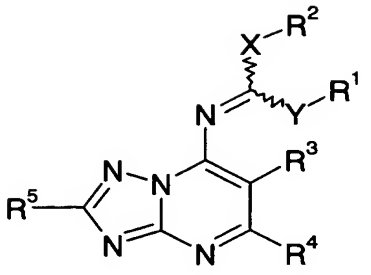
- a saturated, partially unsaturated (for example monounsaturated) or aromatic heterocyclic radical having 5, 6 or 7 ring atoms, 1, 2 or 3 of which are selected from the group consisting of nitrogen, oxygen and sulfur and the remaining ring atoms are carbon, for example:

- 5- or 6-membered saturated or monounsaturated heterocyclyl which contains one to two nitrogen atoms and/or one oxygen or sulfur atom or one or two oxygen and/or sulfur atoms as ring members, for example 2-tetrahydrofuranyl, 3-tetrahydrofuranyl, 2-tetrahydrothienyl, 3-tetrahydrothienyl, 1-pyrrolidinyl, 2-pyrrolidinyl, 3-pyrrolidinyl, 3-isoxazolidinyl, 4-isoxazolidinyl, 5-isoxazolidinyl, 3-isothiazolidinyl, 4-isothiazolidinyl, 5-isothiazolidinyl, 3-pyrazolidinyl, 4-pyrazolidinyl, 5-pyrazolidinyl, 2-oxazolidinyl, 4-oxazolidinyl, 5-oxazolidinyl, 2-thiazolidinyl, 4-thiazolidinyl, 5-thiazolidinyl, 2-imidazolidinyl, 4-imidazolidinyl, 2-pyrrolin-2-yl, 2-pyrrolin-3-yl, 3-pyrrolin-2-yl, 3-pyrrolin-3-yl, 1-piperidinyl, 2-piperidinyl, 3-piperidinyl, 4-piperidinyl, 1,3-dioxan-5-yl, 2-tetrahydropyranyl, 4-tetrahydropyranyl, 2-tetrahydrothienyl, 3-hexahydropyridazinyl, 4-hexahydropyridazinyl, 2-hexahydropyrimidinyl, 4-hexahydropyrimidinyl, 5-hexahydropyrimidinyl and 2-piperazinyl;

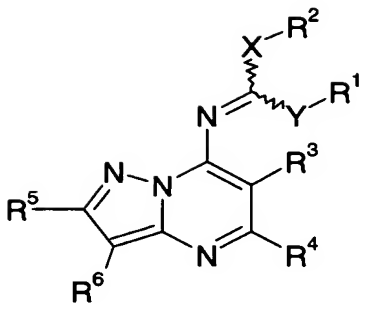
- 5-membered aromatic heterocyclyl (= heteroaryl or hetaryl) which, in addition to carbon atoms, contains one, two or three nitrogen atoms or one or two nitrogen atoms and one sulfur or oxygen atom as ring members, for example 2-furyl, 3-furyl, 2-thienyl, 3-thienyl, 2-pyrrolyl, 3-pyrrolyl, 3-pyrazolyl, 4-pyrazolyl, 5-pyrazolyl, 2-oxazolyl, 4-oxazolyl, 5-oxazolyl, 2-thiazolyl, 4-thiazolyl, 5-thiazolyl, 2-imidazolyl, 4-imidazolyl, and 1,3,4-triazol-2-yl;

- 6-membered heterocyclyl (= heteroaryl or hetaryl) which, in addition to carbon atoms, contains one or two or one, two or three nitrogen atoms as ring members, for example 2-pyridinyl, 3-pyridinyl, 4-pyridinyl, 3-pyridazinyl, 4-pyridazinyl, 2-pyrimidinyl, 4-pyrimidinyl, 5-pyrimidinyl, 2-pyrazinyl, 1,2,4-triazin-3-yl; 1,2,4-triazin-5-yl, 1,2,4-triazin-6-yl and 1,3,5-triazin-2-yl.

A first embodiment of the invention relates to compounds of the formula I in which A is N. Hereinbelow, such compounds are also referred to as compounds I-A. A second embodiment of the invention relates to compounds of the formula I in which A is C-R^6. Hereinbelow, such compounds are also referred to as compounds I-B.



(I-A)

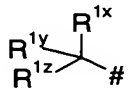


(I-B)

With a view to the fungicidal action of the compounds according to the invention, preference is given to those compounds of the formula I in which A, R^1, R^2, R^3, R^4 and R^5 have in particular the meanings indicated below:

R^1 and R^2 independently of one another are C_1-C_{10}-alkyl, C_1-C_{10}-haloalkyl, C_3-C_{10}-alkenyl, C_3-C_{10}-haloalkenyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, C_3-C_8-cycloalkyl-C_1-C_{10}-alkyl, C_3-C_8-cycloalkyl-C_2-C_{10}-alkenyl, phenyl or benzyl, where the 6 lastmentioned radicals may also carry 1, 2, 3 or 4 substituents selected from the group consisting of halogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl and C_1-C_4-alkoxy, or a group X-R^2 or Y-R^1 is hydrogen or halogen, especially chlorine, and the remaining radical R^2 or R^1 has the meanings indicated here as being preferred.

Hereinbelow, preferred groups R^1 and R^2 are illustrated in more detail. What is stated below for R^1 applies correspondingly also to R^2. R^1 is preferably C_1-C_4-alkyl, C_2-C_6-alkenyl or C_1-C_8-haloalkyl. If R^1 is an alkyl, alkenyl or alkynyl group, this can be branched at the α carbon atom. In these cases, the group R^1 corresponds to a group C:



C

in which # is the bond to the carbon atom of the imino group or to Y and

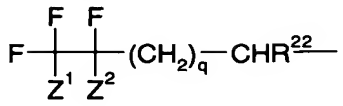
R^{1x} is C_1-C_3-alkyl or C_1-C_3-haloalkyl;

R^{1y} is hydrogen, C_1-C_3-alkyl or C_1-C_3-haloalkyl;

R^{1z} is C_1-C_8-alkyl, C_2-C_8-alkenyl or C_2-C_8-alkynyl, where R^{1z} may be unsubstituted or partially or fully halogenated and/or may carry one to three groups R^8.

Preference is likewise given to compounds I in which R^1 is a 5- or 6-membered saturated or aromatic heterocycle which contains one or two heteroatoms from the group consisting of N, O and S and which may be substituted by one or two alkyl or haloalkyl groups.

Preference is given to compounds I in which R^1 is a group B:



B

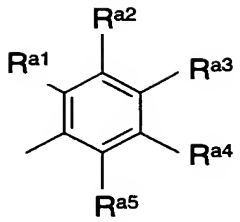
in which

Z^1 is hydrogen, fluorine or C_1-C_6-fluoroalkyl,
Z^2 is hydrogen or fluorine, or
Z^1 and Z^2 together form a double bond;
q is 0 or 1; and
R^{22} is hydrogen or methyl.

Moreover, preference is given to compounds I in which R^1 is C_3-C_6-cycloalkyl which may be substituted by C_1-C_4-alkyl.

If X-R^2 and Y-R^1 and the carbon atom, to which they are attached, form an optionally substituted carbo- or heterocycle, this cycle is preferably selected from among 5-, 6- or 7-membered saturated or monounsaturated cycles which optionally include one heteroatom as ring member. In this case, for example, X-R^2 and Y-R^1 together are $-(CH_2)_2CH=CHCH_2-$, $-(CH_2)_2C(CH_3)=CHCH_2-$, $-(CH_2)_2CH(CH_3)(CH_2)_2-$, $-(CH_2)_2CHF(CH_2)_2-$, $-(CH_2)_3CHFCH_2-$, $-(CH_2)_2CH(CF_3)(CH_2)_2-$, $-(CH_2)_2O(CH_2)_2-$, $-(CH_2)_2S(CH_2)_2-$, $-(CH_2)_5-$, $-(CH_2)_6-$, $-(CH_2)_4-$, $-CH_2CH=CHCH_2-$, $-CH(CH_3)(CH_2)_3-$, $-CH(CH_3)(CH_2)_4-$, $-CH_2CH(CH_3)(CH_2)_2-$ or $-CH_2CH(CH_3)(CH_2)_3-$.

Among the compounds of the formula I, preference is furthermore given to those in which R^3 is a phenyl ring which has 1, 2, 3 or 4, in particular 1, 2 or 3, of the radicals R^9 indicated above or is pentafluorophenyl. Preferably, at least one of the radicals R^9 is located in the ortho-position to the point of attachment. In this case, R^9 is selected in particular from among the following radicals: halogen, especially fluorine or chlorine, CN, C_1-C_4-alkyl, especially methyl or ethyl, C_1-haloalkyl, especially trifluoromethyl, C_1-C_4-alkoxy, especially methoxy or $-C(=O)-R^{13}$ in which R^{13} has the meanings indicated above and is in particular hydrogen, hydroxyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_2-alkylamino or di-C_1-C_2-alkylamino. Among these, preference is given to those compounds of the formula I in which R^3 is a group of the formula



in which

R^{a1} is fluorine, chlorine, methyl or CF_3;

R^{a2} is hydrogen, chlorine or fluorine;

R^{a3} is hydrogen, CN, NO_2, fluorine, chlorine, C_1-C_4-alkyl, especially methyl, C_1-C_4-alkoxy, especially methoxy or a group $C(W)R^{13a}$ in which W is oxygen or sulfur and R^{13a} is C_1-C_4-alkoxy, NH_2, C_1-C_4-alkylamino or di-C_1-C_4-alkylamino, the group $C(W)R^{13a}$ being especially $C(O)OCH_3$, $CONH_2$, $C(S)OCH_3$;

R^{a4} is hydrogen, chlorine or fluorine;

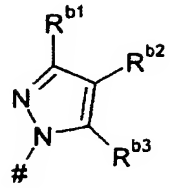
R^{a5} is hydrogen, fluorine, chlorine or C_1-C_4-alkyl.

Among the compounds of the formula I, preference is furthermore given to those compounds in which R^3 is an optionally substituted hydrocarbon radical having 3 to 8 carbon atoms and in particular optionally substituted C_3-C_6-cycloalkyl, C_3-C_6-cycloalkylmethyl, C_3-C_8-alkyl, C_1-C_8-haloalkyl or benzyl and, for example, propyl, isopropyl, isobutyl, 1-methylbutyl, tert-butyl, n-octyl, cyclopropyl, cyclopropylmethyl, cyclopentyl, cyclohexyl, 2,2,2-trifluoroethyl, benzyl or 2-, 3- or 4-chlorophenylmethyl.

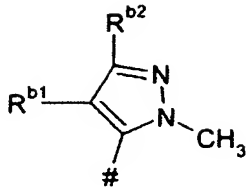
Among the compounds of the formula I, preference is furthermore given to those compounds in which R^3 is a 5- or 6-membered heteroaromatic radical which has 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members and which may have 1, 2, 3 or 4 radicals R^9.

Examples of heterocyclic radicals on R^3 are 1-, 2- or 3-pyrazolyl, 2- or 3-thienyl, for example 4-thiazolyl, isothiazolyl, for example 4-isothiazolyl, oxazolyl, for example 4-oxazolyl, isoxazolyl, for example 4-isoxazolyl, pyrrolyl, for example 2-pyrrolyl, imidazolyl, for example 1-imidazolyl, pyridyl, for example 2-, 3-, or 4-pyridyl, pyrazinyl, for example 2-pyrazinyl, pyridazine, for example 3-pyridazinyl, pyrimidinyl, for example 2-, 4- or 5-pyrimidinyl and 1,3,5-triazin-2-yl, where the radicals mentioned above may be unsubstituted or, depending on the number of carbon atoms in the ring, may have 1, 2, 3 or 4 radicals R^9. Preferred radicals R^9 are halogen, nitro, cyano, C_1-C_4-alkyl, C_1-C_4-haloalkyl, especially C_1-C_2-fluoroalkyl, C_1-C_4-alkoxy and C_1-C_4-alkoxycarbonyl.

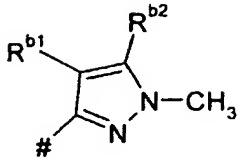
Preferred heteroaromatic radicals include the radicals het-1 to het-21 shown below:



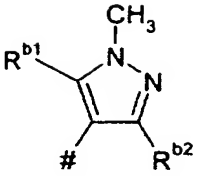
Het-1



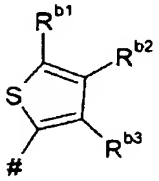
Het-2



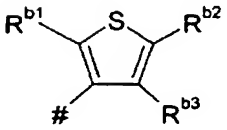
Het-3



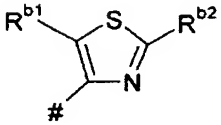
Het-4



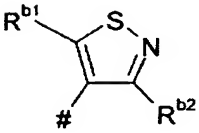
Het-5



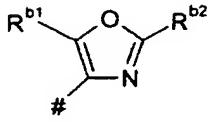
Het-6



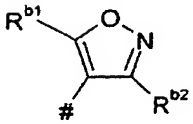
Het-7



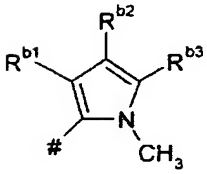
Het-8



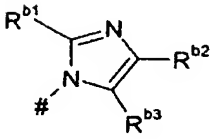
Het-9



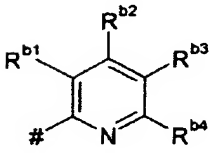
Het-10



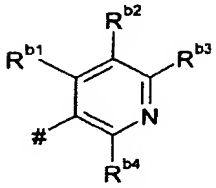
Het-11



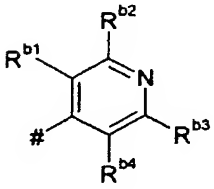
Het-12



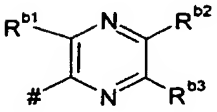
Het-13



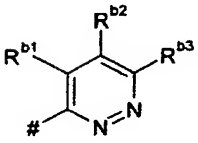
Het-14



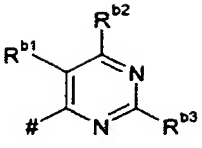
Het-15



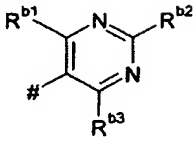
Het-16



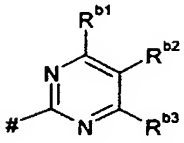
Het-17



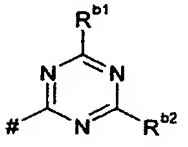
Het-18



Het-19



Het-20



Het-21

in which

# denotes the point of attachment; and

R^{b1}, R^{b2}, R^{b3} and R^{b4} independently of one another are hydrogen or have the meanings mentioned for R^9.

Preferably, the radicals R^{b1}, R^{b2}, R^{b3} and R^{b4} independently of one another are selected from the group consisting of hydrogen, halogen, nitro, cyano, C_1-C_4-alkyl, C_1-C_4-haloalkyl, especially C_1-C_2-fluoroalkyl, C_1-C_4-alkoxy and C_1-C_4-alkoxycarbonyl. In a particularly preferred embodiment, R^{b1}, R^{b2}, R^{b3} and R^{b4} independently of one another are selected from the group consisting of hydrogen, nitro, cyano, fluorine, chlorine, bromine, methyl, ethyl, isopropyl, trifluoromethyl, fluoromethyl, methoxy and methoxycarbonyl.

Examples of het-1 include 3,5-dimethylpyrazol-1-yl, 3,5-diisopropylpyrazol-1-yl, 3-methyl-5-isopropylpyrazol-1-yl, 3-isopropyl-5-methylpyrazol-1-yl, 3-ethyl-5-methylpyrazol-1-yl, 3,4,5-trimethylpyrazol-1-yl, 3-trifluoromethylpyrazol-1-yl, 3-trifluoromethyl-5-methoxypyrazol-1-yl, 3-trifluoromethyl-5-methylpyrazol-1-yl, 3-methyl-5-methoxypyrazol-1-yl, 3,5-dimethyl-4-chloropyrazol-1-yl and 3,5-ditrifluoromethylpyrazol-1-yl.

Examples of het-2 include 1,3-dimethylpyrazol-5-yl and 1-methyl-3-trifluoromethylpyrazol-1-yl.

Examples of het-3 include 1,5-dimethylpyrazol-3-yl and 1-methyl-5-methoxypyrazol-3-yl.

Examples of het-4 include 1,3-dimethylpyrazol-4-yl, 1,5-dimethylpyrazol-4-yl, 1,3,5-trimethylpyrazol-4-yl, 1-methyl-3-trifluoromethylpyrazol-4-yl and 1-methyl-5-trifluoromethylpyrazol-4-yl.

Examples of het-5 include 2-thienyl, 5-methylthiophen-2-yl, 5-chlorothiophen-2-yl, 3,5-dichlorothiophen-2-yl, 3,4,5-trichlorothiophen-2-yl and 5-bromothiophen-2-yl.

Examples of het-6 include 3-thienyl, 2-methylthiophen-3-yl, 2,5-dichlorothiophen-3-yl, 2,4,5-trichlorothiophen-3-yl and 2,5-dibromothiophen-3-yl.

Examples of het-7 include thiazol-4-yl, 2-methylthiazol-4-yl, 2-methyl-5-chlorothiazol-4-yl and 2,5-dichlorothiazol-4-yl.

Examples of het-8 include 3-methylisothiazol-4-yl and 3-methyl-5-chloroisothiazol-4-yl.

Examples of het-9 include oxazol-4-yl, 2-methyloxazol-4-yl and 2,5-dimethyloxazol-4-yl.

Examples of het-10 include isoxazol-4-yl, 3,5-dimethylisoxazol-4-yl and 3-chloro-isoxazol-4-yl.

Examples of het-11 include 1-methylpyrrol-2-yl, 1,4-dimethylpyrrol-2-yl, 1-methyl-5-chloropyrrol-2-yl and 1-methyl-3,5-dichloropyrrol-2-yl.

Examples of het-12 include 4,5-dichloroimidazol-1-yl and 4,5-dimethylimidazol-1-yl.

Examples of het-13 include 2-pyridyl, 3-fluoropyridin-2-yl, 3,5-difluoropyridin-2-yl, 3,5-dichloropyridin-2-yl, 3-fluoro-5-trifluoromethylpyridin-2-yl, 3-trifluoromethylpyridin-2-yl, 5-nitropyridin-2-yl, 5-cyanopyridin-2-yl, 5-methoxycarbonylpyridin-2-yl, 5-trifluoromethylpyridin-2-yl, 5-methylpyridin-2-yl, 4-methylpyridin-2-yl, 3-methylpyridin-2-yl, 3-ethylpyridin-2-yl and 6-methylpyridin-2-yl.

An example of het-14 is 3-pyridyl.

An example of het-15 is 4-pyridyl.

An example of het-16 is pyrazin-2-yl.

Examples of het-17 include pyridazin-3-yl, 6-chloropyridazin-3-yl, 6-methoxypyridazin-3-yl.

Examples of het-18 include 5-chloropyrimidin-4-yl, 5-fluoropyrimidin-4-yl, 5-fluoro-6-chloropyrimidin-4-yl, 2-methyl-6-trifluoromethyl-pyrimidin-4-yl, 2,5-dimethyl-6-trifluoromethylpyrimidin-4-yl, 5-methyl-6-trifluoromethylpyrimidin-4-yl, 6-trifluoromethyl-pyrimidin-4-yl, 2-methyl-5-fluoropyrimidin-4-yl, 2-methyl-5-chloropyrimidin-4-yl, 5-chloro-6-methylpyrimidin-4-yl, 5-chloro-6-ethylpyrimidin-4-yl, 5-chloro-6-isopropylpyrimidin-4-yl, 5-bromo-6-methylpyrimidin-4-yl, 5-fluoro-6-methylpyrimidin-4-yl, 5-fluoro-6-fluoromethylpyrimidin-4-yl, 2,6-dimethyl-5-chloropyrimidin-4-yl, 5,6-dimethylpyrimidin-4-yl, 2,5-dimethylpyrimidin-4-yl, 2,5,6-trimethylpyrimidin-4-yl and 5-methyl-6-methoxypyrimidin-4-yl.

Examples of het-19 include 4-methylpyrimidin-5-yl, 4,6-dimethylpyrimidin-5-yl, 2,4,6-trimethylpyrimidin-5-yl and 4-trifluoromethyl-6-methylpyrimidin-5-yl.

Examples of het-20 include 4,6-dimethylpyrimidin-2-yl, 4,5,6-trimethylpyrimidin-2-yl, 4,6-ditrifluoromethylpyrimidin-2-yl and 4,6-dimethyl-5-chloropyrimidin-2-yl.

An example of het-21 is 1,3,5-triazin-2-yl.

Furthermore, it has been found to be advantageous for R^4 in formula I to be halogen, CN, C_1-C_4-alkoxy, especially methoxy, or C_1-C_4-alkyl, especially methyl. Among these, preference is given in particular to compounds of the formula I in which R^4 is halogen. Preference is also given to compounds of the formula I in which R^4 is methyl or methoxy.

Among the compounds of the formula I, preference is furthermore given to those compounds in which R^5 is hydrogen, halogen, especially chlorine or fluorine, or C_1-C_4-alkyl, especially methyl. In a particularly preferred embodiment, R^5 is hydrogen.

In the compounds of the formula I-B, R^6 is preferably hydrogen, halogen, especially chlorine or fluorine, a group $C(W)R^{13b}$ in which W is oxygen or sulfur and R^{13b} is C_1-C_4-alkoxy, NH_2, C_1-C_4-alkylamino or di-C_1-C_4-alkylamino, especially $C(O)OCH_3$, $CONH_2$, $C(S)OCH_3$, or C_1-C_4-alkyl, especially methyl. If R^5 is different from hydrogen, R^6 is in particular hydrogen. With particular preference, R^5 and R^6 in formula I-B are hydrogen.

In a preferred embodiment of the compounds according to the invention, at least one of the variables X or Y in formula I is a chemical bond. Among these, preference is given to those compounds in which one of the groups Y-R^1 or X-R^2 is hydrogen or C_1-C_8-alkyl and especially C_1-C_4-alkyl. The other of these groups Y-R^1 or X-R^2 has the meanings indicated above. In this case, R^1 and R^2 have in particular one of the meanings indicated as being preferred.

In a particularly preferred embodiment of the compounds I, both variables X and Y are a chemical bond. In this case, R^1 and R^2 independently of one another have the meanings indicated above and are in particular selected from the group consisting of hydrogen, C_1-C_{10}-alkyl, C_1-C_{10}-haloalkyl, C_3-C_{10}-alkenyl, C_3-C_{10}-haloalkenyl, C_3-C_8-cycloalkyl, C_{53}-C_8-cycloalkenyl, C_3-C_8-cycloalkyl-C_1-C_{10}-alkyl, C_3-C_8-cycloalkyl-C_2-C_{10}-alkenyl, phenyl and benzyl, where the 6 lastmentioned radicals may also carry 1, 2, 3 or 4 substituents selected from the group consisting of halogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl and C_1-C_4-alkoxy, where one of the radicals R^1 or R^2 may also be halogen and especially chlorine. Among these, particular preference is given to those compounds in which one of the radicals R^1 or R^2 is a group of the formula C or B as defined above.

Among the compounds I in which X and Y are each a chemical bond, preference is given to those compounds in which one of the variables R^1 or R^2 is hydrogen or C_1-C_4-

alkyl and the other variable has one of the meanings indicated above, in particular a meaning mentioned as being preferred.

Among the compounds I in which X and Y are each a chemical bond, preference is furthermore given to those compounds in which one of the variables R^1 or R^2 is halogen, especially is chlorine, and the other variable has one of the meanings indicated above, in particular a meaning mentioned as being preferred.

R^7 is in particular hydrogen or C_1-C_4-alkyl. Compounds where R^7 = hydrogen can in particular also be present in the form of tautomers of the formula II in which W^a is a group N-R^{21}.

In a further preferred embodiment of the compounds according to the invention, one of the variables X or Y in formula I is a group NR^7. Among these, preference is given to those compounds I in which Y is N-R^7, where R^7 has the meanings mentioned above and in particular a meaning mentioned as being preferred. In the group $-(NR^7)-R^1$, R^1 is then C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, C_4-C_{10}-alkadienyl, C_2-C_{10}alkynyl, C_3-C_8-cycloalkyl, C_5-C_8-cycloalkenyl, C_5-C_{10}-bicycloalkyl, phenyl, phenyl-C_1-C_4-alkyl, naphthyl, naphthyl-C_1-C_4-alkyl, where the radicals mentioned as R^1 may be partially or fully halogenated and/or may have 1, 2, 3 or 4 radicals R^8. Very particular preference is given to compounds of the formula I in which the group $(NR^7)R^1$ is C_1-C_6-alkylamino or di-C_1-C_6-alkylamino, especially C_1-C_4-alkylamino or di-C_1-C_4-alkylamino.

Preference is likewise given to compounds I in which in the group $-(NR^7)-R^1$ the substituents R^1 and R^7 together with the nitrogen atom to which they are attached are a 5- or 6-membered saturated, partially unsaturated or aromatic N-heterocycle which may have one or two further heteroatoms selected from the group consisting of O, S and N as ring member and/or may have 1, 2, 3 or 4 radicals R^8, in which R^8 has one or of the meanings mentioned above and in particular one of the meanings mentioned as being preferred.

Among these, particular preference is given to those compounds I in which the group $-(NR^7)-R^1$ is 5- or 6-membered saturated heterocyclyl which is attached via nitrogen, which optionally has a further heteroatom selected from the group consisting of N, O and S as ring atom and which optionally carries 1, 2, 3 or 4 substituents R^8 selected from the group consisting of halogen and C_1-C_4-alkyl. In a particularly preferred embodiment, the group $-(NR^7)-R^1$ is piperidin-1-yl, 4-methyl-1-piperidinyl, 1-pyrrolidinyl, 2,5-dihydropyrrol-1-yl, 4-morpholinyl or 4-thiomorpholinyl.

Preference is likewise given to compounds I in which X is a chemical bond, R^2 is hydrogen or C_1-C_4-alkyl and the group -(NR^7)-R^1 has one of the meanings mentioned above and in particular one of the meanings mentioned as being preferred.

R^8 is in particular halogen, especially fluorine, C_1-C_4-alkoxy or C_1-C_4-alkyl.

In the groups OR^{10}, SR^{10}, $NR^{11}R^{12}$, $C(W)R^{13}$, $C(=N\text{-}OR^{15})R^{14}$, $NHC(W)R^{16}$, $C(W)R^{17}$ and $NR^{18}R^{19}$, the variables have in particular the meanings indicated below:

R^{10} is in particular H, C_1-C_4-alkyl, C(O)H or C_1-C_4-alkylcarbonyl. OR^{10} is in particular OH, C_1-C_4-alkoxy, O-C(O)H or C_1-C_4-alkylcarbonyloxy. OR^{10} is in particular SH or S-C_1-C_4-alkyl.

R^{11} and R^{12} are in particular H, C_1-C_4-alkyl, C_1-C_4-alkylcarbonyl or C_1-C_4-alkyl(thiocarbonyl). $NR^{11}R^{12}$ is in particular NH_2, $NHCH_3$, NHC_2H_5, $N(CH_3)_2$, $N(C_2H_5)CH_3$, $NHC(O)CH_3$ or NHC(O)H.

R^{13} is in particular H, C_1-C_4-alkyl, OH, NH_2, $NHCH_3$, NHC_2H_5, $N(CH_3)_2$, $N(C_2H_5)CH_3$ or C_1-C_4-alkoxy.

R^{14} is in particular C_1-C_4-alkyl.

R^{15} is in particular C_1-C_4-alkyl.

R^{16} is in particular hydrogen or C_1-C_4-alkyl.

R^{17} is in particular H, C_1-C_4-alkyl or C_1-C_4-alkoxy.

R^{18} and R^{19} are in particular H, C_1-C_4-alkyl, C_1-C_4-alkylcarbonyl or C_1-C_4-alkyl(thiocarbonyl). $NR^{18}R^{19}$ is in particular NH_2, $NHCH_3$, NHC_2H_5, $N(CH_3)_2$, $N(C_2H_5)CH_3$, $NHC(O)CH_3$ or NHC(O)H.

Particularly preferred compounds of the formula I are the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A1). Examples of these are the compounds I-A1.1 to I-A1.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A2). Examples of these are the compounds I-A2.1 to I-A2.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-dichlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A3). Examples of these are the compounds I-A3.1 to I-A3.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A4). Examples of these are the compounds I-A4.1 to I-A4.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4,6-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A5). Examples of these are the compounds I-A5.1 to I-A5.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A6). Examples of these are the compounds I-A6.1 to I-A6.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-chloro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A7). Examples of these are the

compounds I-A7.1 to I-A7.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is pentafluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A8). Examples of these are the compounds I-A8.1 to I-A8.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A9). Examples of these are the compounds I-A9.1 to I-A9.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A10). Examples of these are the compounds I-A10.1 to I-A10.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A11). Examples of these are the compounds I-A11.1 to I-A11.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A12). Examples of these are the compounds I-A12.1 to I-A12.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y,

R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A13). Examples of these are the compounds I-A13.1 to I-A13.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A14). Examples of these are the compounds I-A14.1 to I-A14.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A15). Examples of these are the compounds I-A15.1 to I-A15.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 4-fluoro-6-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A16). Examples of these are the compounds I-A16.1 to I-A16.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,3-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A17). Examples of these are the compounds I-A17.1 to I-A17.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,5-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A18). Examples of these are the compounds I-A18.1 to I-A18.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,3,4-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A19). Examples of these are the compounds I-A19.1 to I-A19.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A20). Examples of these are the compounds I-A20.1 to I-A20.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A21). Examples of these are the compounds I-A21.1 to I-A21.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methyl-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A22). Examples of these are the compounds I-A22.1 to I-A22.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A23). Examples of these are the compounds I-A23.1 to I-A23.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A24). Examples of these are the

compounds I-A24.1 to I-A24.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4,5-trimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A25). Examples of these are the compounds I-A25.1 to I-A25.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A26). Examples of these are the compounds I-A26.1 to I-A26.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A27). Examples of these are the compounds I-A27.1 to I-A27.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A28). Examples of these are the compounds I-A28.1 to I-A28.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A29). Examples of these are the compounds I-A29.1 to I-A29.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is chlorine, R^5 is

hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A30). Examples of these are the compounds I-A30.1 to I-A30.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A31). Examples of these are the compounds I-A31.1 to I-A31.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A32). Examples of these are the compounds I-A32.1 to I-A32.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A33). Examples of these are the compounds I-A33.1 to I-A33.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-dichlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A34). Examples of these are the compounds I-A34.1 to I-A34.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A35). Examples of these are the compounds I-A35.1 to I-A35.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4,6-trifluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A36). Examples of these are the compounds I-A36.1 to I-A36.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A37). Examples of these are the compounds I-A37.1 to I-A37.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-chloro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A38). Examples of these are the compounds I-A38.1 to I-A38.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is pentafluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A39). Examples of these are the compounds I-A39.1 to I-A39.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A40). Examples of these are the compounds I-A40.1 to I-A40.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A41). Examples of these are the

compounds I-A41.1 to I-A41.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A42). Examples of these are the compounds I-A42.1 to I-A42.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A43). Examples of these are the compounds I-A43.1 to I-A43.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A44). Examples of these are the compounds I-A44.1 to I-A44.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A45). Examples of these are the compounds I-A45.1 to I-A45.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A46). Examples of these are the compounds I-A46.1 to I-A46.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 4-fluoro-6-chlorophenyl, R^4 is methyl, R^5 is hydrogen and

X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A47). Examples of these are the compounds I-A47.1 to I-A47.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,3-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A48). Examples of these are the compounds I-A48.1 to I-A48.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,5-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A49). Examples of these are the compounds I-A49.1 to I-A49.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,3,4-trifluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A50). Examples of these are the compounds I-A50.1 to I-A50.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A51). Examples of these are the compounds I-A51.1 to I-A51.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4-dimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A51). Examples of these are the compounds I-A51.1 to I-A51.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-methyl-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A52). Examples of these are the compounds I-A52.1 to I-A52.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-fluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A53). Examples of these are the compounds I-A53.1 to I-A53.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-dimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A54). Examples of these are the compounds I-A54.1 to I-A54.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,4,5-trimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A55). Examples of these are the compounds I-A55.1 to I-A55.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A56). Examples of these are the compounds I-A56.1 to I-A56.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A57). Examples of these are

the compounds I-A57.1 to I-A57.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A58). Examples of these are the compounds I-A58.1 to I-A58.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A59). Examples of these are the compounds I-A59.1 to I-A59.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A60). Examples of these are the compounds I-A60.1 to I-A60.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the triazolopyrimidines of the formula I-A in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-A61). Examples of these are the compounds I-A61.1 to I-A61.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B1). Examples of these are the compounds I-B1.1 to I-B1.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X,

Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B2). Examples of these are the compounds I-B2.1 to I-B2.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-dichlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B3). Examples of these are the compounds I-B3.1 to I-B3.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B4). Examples of these are the compounds I-B4.1 to I-B4.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4,6-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B5). Examples of these are the compounds I-B5.1 to I-B5.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B6). Examples of these are the compounds I-B6.1 to I-B6.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-chloro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B7). Examples of these are the compounds I-B7.1 to I-B7.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is pentafluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B8). Examples of these are the compounds I-B8.1 to I-B8.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B9). Examples of these are the compounds I-B9.1 to I-B9.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B10). Examples of these are the compounds I-B10.1 to I-B10.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B11). Examples of these are the compounds I-B11.1 to I-B11.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B12). Examples of these are the compounds I-B12.1 to I-B12.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B13). Examples of these are the

compounds I-B13.1 to I-B13.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B14). Examples of these are the compounds I-B14.1 to I-B14.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B15). Examples of these are the compounds I-B15.1 to I-B15.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 4-fluoro-6-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B16). Examples of these are the compounds I-B16.1 to I-B16.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,3-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B17). Examples of these are the compounds I-B17.1 to I-B17.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,5-difluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B18). Examples of these are the compounds I-B18.1 to I-B18.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,3,4-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen and

X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B19). Examples of these are the compounds I-B19.1 to I-B19.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B20). Examples of these are the compounds I-B20.1 to I-B20.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B21). Examples of these are the compounds I-B21.1 to I-B21.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methyl-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B22). Examples of these are the compounds I-B22.1 to I-B22.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B23). Examples of these are the compounds I-B23.1 to I-B23.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B24). Examples of these are the compounds I-B24.1 to I-B24.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4,5-trimethylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B25). Examples of these are the compounds I-B25.1 to I-B25.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B26). Examples of these are the compounds I-B26.1 to I-B26.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B27). Examples of these are the compounds I-B27.1 to I-B27.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B28). Examples of these are the compounds I-B28.1 to I-B28.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B29). Examples of these are the compounds I-B29.1 to I-B29.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B30). Examples of these

are the compounds I-B30.1 to I-B30.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is chlorine, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B31). Examples of these are the compounds I-B31.1 to I-B31.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B32). Examples of these are the compounds I-B32.1 to I-B32.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B33). Examples of these are the compounds I-B33.1 to I-B33.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-dichlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B34). Examples of these are the compounds I-B34.1 to I-B34.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B35). Examples of these are the compounds I-B35.1 to I-B35.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4,6-trifluorophenyl, R^4 is methyl, R^5 is hydrogen and X,

Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B36). Examples of these are the compounds I-B36.1 to I-B36.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B37). Examples of these are the compounds I-B37.1 to I-B37.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-chloro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B38). Examples of these are the compounds I-B38.1 to I-B38.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is pentafluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B39). Examples of these are the compounds I-B39.1 to I-B39.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B40). Examples of these are the compounds I-B40.1 to I-B40.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B41). Examples of these are the compounds I-B41.1 to I-B41.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B42). Examples of these are the compounds I-B42.1 to I-B42.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B43). Examples of these are the compounds I-B43.1 to I-B43.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B44). Examples of these are the compounds I-B44.1 to I-B44.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B45). Examples of these are the compounds I-B45.1 to I-B45.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B46). Examples of these are the compounds I-B46.1 to I-B46.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 4-fluoro-6-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B47). Examples of these are the

compounds I-B47.1 to I-B47.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,3-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B48). Examples of these are the compounds I-B48.1 to I-B48.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,5-difluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B49). Examples of these are the compounds I-B49.1 to I-B49.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,3,4-trifluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B50). Examples of these are the compounds I-B50.1 to I-B50.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-Bs). Examples of these are the compounds I-B51.1 to I-B51.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4-dimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B51). Examples of these are the compounds I-B51.1 to I-B51.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-methyl-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen

and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B52). Examples of these are the compounds I-B52.1 to I-B52.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-fluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B53). Examples of these are the compounds I-B53.1 to I-B53.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-dimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B54). Examples of these are the compounds I-B54.1 to I-B54.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,4,5-trimethylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B55). Examples of these are the compounds I-B55.1 to I-B55.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B56). Examples of these are the compounds I-B56.1 to I-B56.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B57). Examples of these are the compounds I-B57.1 to I-B57.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B58). Examples of these are the compounds I-B58.1 to I-B58.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B59). Examples of these are the compounds I-B59.1 to I-B59.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B60). Examples of these are the compounds I-B60.1 to I-B60.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Particularly preferred compounds of the formula I are also the pyrazolopyrimidines of the formula I-B in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is methyl, R^5 is hydrogen and X, Y, R^1 and R^2 have the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds I-B61). Examples of these are the compounds I-B61.1 to I-B61.414 in which X-R^2 and Y-R^1 together have in each case the meanings given in one row of Table A.

Table A:

No.	Y-R^1	X-R^2
1	H	H
2	CH_3	H
3	CH_3	CH_3
4	CH_3	CH_2CH_3
5	CH_3	Cl
6	CH_3	OCH_3
7	CH_3	OC_2H_5

No.	Y-R^1	X-R^2
8	CH_3	$N(CH_3)_2$
9	CH_3	$N(CH_3)C_2H_5$
10	CH_3	$N(CH_3)C(O)CH_3$
11	CH_2CH_3	H
12	CH_2CH_3	CH_3
13	CH_2CH_3	CH_2CH_3
14	CH_2CH_3	Cl
15	CH_2CH_3	OCH_3
16	CH_2CH_3	OC_2H_5
17	CH_2CH_3	$N(CH_3)_2$
18	CH_2CH_3	$N(CH_3)C_2H_5$
19	CH_2CH_3	$N(CH_3)C(O)CH_3$
20	CH_2CF_3	H
21	CH_2CF_3	CH_3
22	CH_2CF_3	CH_2CH_3
23	CH_2CF_3	Cl
24	CH_2CF_3	OCH_3
25	CH_2CF_3	OC_2H_5
26	CH_2CF_3	$N(CH_3)_2$
27	CH_2CF_3	$N(CH_3)C_2H_5$
28	CH_2CF_3	$N(CH_3)C(O)CH_3$
29	CH_2CCl_3	H
30	CH_2CCl_3	CH_3
31	CH_2CCl_3	CH_2CH_3
32	CH_2CCl_3	Cl
33	CH_2CCl_3	OCH_3
34	CH_2CCl_3	OC_2H_5
35	CH_2CCl_3	$N(CH_3)_2$
36	CH_2CCl_3	$N(CH_3)C_2H_5$
37	CH_2CCl_3	$N(CH_3)C(O)CH_3$

No.	Y-R^1	X-R^2
38	$CH_2CH_2CH_3$	H
39	$CH_2CH_2CH_3$	CH_3
40	$CH_2CH_2CH_3$	CH_2CH_3
41	$CH_2CH_2CH_3$	$CH_2CH_2CH_3$
42	$CH_2CH_2CH_3$	Cl
43	$CH_2CH_2CH_3$	OCH_3
44	$CH_2CH_2CH_3$	OC_2H_5
45	$CH_2CH_2CH_3$	$N(CH_3)_2$
46	$CH_2CH_2CH_3$	$N(CH_3)C_2H_5$
47	$CH_2CH_2CH_3$	$N(CH_3)C(O)CH_3$
48	$CH(CH_3)_2$	H
49	$CH(CH_3)_2$	CH_3
50	$CH(CH_3)_2$	CH_2CH_3
51	$CH(CH_3)_2$	Cl
52	$CH(CH_3)_2$	OCH_3
53	$CH(CH_3)_2$	OC_2H_5
54	$CH(CH_3)_2$	$N(CH_3)_2$
55	$CH(CH_3)_2$	$N(CH_3)C_2H_5$
56	$CH(CH_3)_2$	$N(CH_3)C(O)CH_3$
57	(±) $CH(CH_3)$-CH_2CH_3	H
58	(±) $CH(CH_3)$-CH_2CH_3	CH_3
59	(±) $CH(CH_3)$-CH_2CH_3	CH_2CH_3
60	(±) $CH(CH_3)$-CH_2CH_3	Cl
61	(±) $CH(CH_3)$-CH_2CH_3	OCH_3
62	(±) $CH(CH_3)$-CH_2CH_3	OC_2H_5
63	(±) $CH(CH_3)$-CH_2CH_3	$N(CH_3)_2$
64	(±) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C_2H_5$
65	(±) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C(O)CH_3$
66	(S) $CH(CH_3)$-CH_2CH_3	H
67	(S) $CH(CH_3)$-CH_2CH_3	CH_3

No.	Y-R^1	X-R^2
68	(S) $CH(CH_3)$-CH_2CH_3	CH_2CH_3
69	(S) $CH(CH_3)$-CH_2CH_3	Cl
70	(S) $CH(CH_3)$-CH_2CH_3	OCH_3
71	(S) $CH(CH_3)$-CH_2CH_3	OC_2H_5
72	(S) $CH(CH_3)$-CH_2CH_3	$N(CH_3)_2$
73	(S) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C_2H_5$
74	(S) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C(O)CH_3$
75	(R) $CH(CH_3)$-CH_2CH_3	H
76	(R) $CH(CH_3)$-CH_2CH_3	CH_3
77	(R) $CH(CH_3)$-CH_2CH_3	CH_2CH_3
78	(R) $CH(CH_3)$-CH_2CH_3	Cl
79	(R) $CH(CH_3)$-CH_2CH_3	OCH_3
80	(R) $CH(CH_3)$-CH_2CH_3	OC_2H_5
81	(R) $CH(CH_3)$-CH_2CH_3	$N(CH_3)_2$
82	(R) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C_2H_5$
83	(R) $CH(CH_3)$-CH_2CH_3	$N(CH_3)C(O)CH_3$
84	(±) $CH(CH_3)$-$CH(CH_3)_2$	H
85	(±) $CH(CH_3)$-$CH(CH_3)_2$	CH_3
86	(±) $CH(CH_3)$-$CH(CH_3)_2$	CH_2CH_3
87	(±) $CH(CH_3)$-$CH(CH_3)_2$	Cl
88	(±) $CH(CH_3)$-$CH(CH_3)_2$	OCH_3
89	(±) $CH(CH_3)$-$CH(CH_3)_2$	OC_2H_5
90	(±) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)_2$
91	(±) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C_2H_5$
92	(±) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C(O)CH_3$
93	(S) $CH(CH_3)$-$CH(CH_3)_2$	H
94	(S) $CH(CH_3)$-$CH(CH_3)_2$	CH_3
95	(S) $CH(CH_3)$-$CH(CH_3)_2$	CH_2CH_3
96	(S) $CH(CH_3)$-$CH(CH_3)_2$	Cl
97	(S) $CH(CH_3)$-$CH(CH_3)_2$	OCH_3

No.	Y-R^1	X-R^2
98	(S) $CH(CH_3)$-$CH(CH_3)_2$	OC_2H_5
99	(S) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)_2$
100	(S) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C_2H_5$
101	(S) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C(O)CH_3$
102	(R) $CH(CH_3)$-$CH(CH_3)_2$	H
103	(R) $CH(CH_3)$-$CH(CH_3)_2$	CH_3
104	(R) $CH(CH_3)$-$CH(CH_3)_2$	CH_2CH_3
105	(R) $CH(CH_3)$-$CH(CH_3)_2$	Cl
106	(R) $CH(CH_3)$-$CH(CH_3)_2$	OCH_3
107	(R) $CH(CH_3)$-$CH(CH_3)_2$	OC_2H_5
108	(R) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)_2$
109	(R) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C_2H_5$
110	(R) $CH(CH_3)$-$CH(CH_3)_2$	$N(CH_3)C(O)CH_3$
111	(±) $CH(CH_3)$-$C(CH_3)_3$	H
112	(±) $CH(CH_3)$-$C(CH_3)_3$	CH_3
113	(±) $CH(CH_3)$-$C(CH_3)_3$	CH_2CH_3
114	(±) $CH(CH_3)$-$C(CH_3)_3$	Cl
115	(±) $CH(CH_3)$-$C(CH_3)_3$	OCH_3
116	(±) $CH(CH_3)$-$C(CH_3)_3$	OC_2H_5
117	(±) $CH(CH_3)$-$C(CH_3)_3$	$N(CH_3)_2$
118	(±) $CH(CH_3)$-$C(CH_3)_3$	$N(CH_3)C_2H_5$
119	(±) $CH(CH_3)$-$C(CH_3)_3$	$N(CH_3)C(O)CH_3$
120	(S) $CH(CH_3)$-$C(CH_3)_3$	H
121	(S) $CH(CH_3)$-$C(CH_3)_3$	CH_3
122	(S) $CH(CH_3)$-$C(CH_3)_3$	CH_2CH_3
123	(S) $CH(CH_3)$-$C(CH_3)_3$	Cl
124	(S) $CH(CH_3)$-$C(CH_3)_3$	OCH_3
125	(S) $CH(CH_3)$-$C(CH_3)_3$	OC_2H_5
126	(S) $CH(CH_3)$-$C(CH_3)_3$	$N(CH_3)_2$
127	(S) $CH(CH_3)$-$C(CH_3)_3$	$N(CH_3)C_2H_5$

No.	$Y\text{-}R^1$	$X\text{-}R^2$
128	(S) $CH(CH_3)\text{-}C(CH_3)_3$	$N(CH_3)C(O)CH_3$
129	(R) $CH(CH_3)\text{-}C(CH_3)_3$	H
130	(R) $CH(CH_3)\text{-}C(CH_3)_3$	CH_3
131	(R) $CH(CH_3)\text{-}C(CH_3)_3$	CH_2CH_3
132	(R) $CH(CH_3)\text{-}C(CH_3)_3$	Cl
133	(R) $CH(CH_3)\text{-}C(CH_3)_3$	OCH_3
134	(R) $CH(CH_3)\text{-}C(CH_3)_3$	OC_2H_5
135	(R) $CH(CH_3)\text{-}C(CH_3)_3$	$N(CH_3)_2$
136	(R) $CH(CH_3)\text{-}C(CH_3)_3$	$N(CH_3)C_2H_5$
137	(R) $CH(CH_3)\text{-}C(CH_3)_3$	$N(CH_3)C(O)CH_3$
138	(±) $CH(CH_3)\text{-}CF_3$	H
139	(±) $CH(CH_3)\text{-}CF_3$	CH_3
140	(±) $CH(CH_3)\text{-}CF_3$	CH_2CH_3
141	(±) $CH(CH_3)\text{-}CF_3$	Cl
142	(±) $CH(CH_3)\text{-}CF_3$	OCH_3
143	(±) $CH(CH_3)\text{-}CF_3$	OC_2H_5
144	(±) $CH(CH_3)\text{-}CF_3$	$N(CH_3)_2$
145	(±) $CH(CH_3)\text{-}CF_3$	$N(CH_3)C_2H_5$
146	(±) $CH(CH_3)\text{-}CF_3$	$N(CH_3)C(O)CH_3$
147	(S) $CH(CH_3)\text{-}CF_3$	H
148	(S) $CH(CH_3)\text{-}CF_3$	CH_3
149	(S) $CH(CH_3)\text{-}CF_3$	CH_2CH_3
150	(S) $CH(CH_3)\text{-}CF_3$	Cl
151	(S) $CH(CH_3)\text{-}CF_3$	OCH_3
152	(S) $CH(CH_3)\text{-}CF_3$	OC_2H_5
153	(S) $CH(CH_3)\text{-}CF_3$	$N(CH_3)_2$
154	(S) $CH(CH_3)\text{-}CF_3$	$N(CH_3)C_2H_5$
155	(S) $CH(CH_3)\text{-}CF_3$	$N(CH_3)C(O)CH_3$
156	(R) $CH(CH_3)\text{-}CF_3$	H
157	(R) $CH(CH_3)\text{-}CF_3$	CH_3

No.	Y-R^1	X-R^2
158	(R) $CH(CH_3)$-CF_3	CH_2CH_3
159	(R) $CH(CH_3)$-CF_3	Cl
160	(R) $CH(CH_3)$-CF_3	OCH_3
161	(R) $CH(CH_3)$-CF_3	OC_2H_5
162	(R) $CH(CH_3)$-CF_3	$N(CH_3)_2$
163	(R) $CH(CH_3)$-CF_3	$N(CH_3)C_2H_5$
164	(R) $CH(CH_3)$-CF_3	$N(CH_3)C(O)CH_3$
165	(±) $CH(CH_3)$-CCl_3	H
166	(±) $CH(CH_3)$-CCl_3	CH_3
167	(±) $CH(CH_3)$-CCl_3	CH_2CH_3
168	(±) $CH(CH_3)$-CCl_3	Cl
169	(±) $CH(CH_3)$-CCl_3	OCH_3
170	(±) $CH(CH_3)$-CCl_3	OC_2H_5
171	(±) $CH(CH_3)$-CCl_3	$N(CH_3)_2$
172	(±) $CH(CH_3)$-CCl_3	$N(CH_3)C_2H_5$
173	(±) $CH(CH_3)$-CCl_3	$N(CH_3)C(O)CH_3$
174	(S) $CH(CH_3)$-CCl_3	H
175	(S) $CH(CH_3)$-CCl_3	CH_3
176	(S) $CH(CH_3)$-CCl_3	CH_2CH_3
177	(S) $CH(CH_3)$-CCl_3	Cl
178	(S) $CH(CH_3)$-CCl_3	OCH_3
179	(S) $CH(CH_3)$-CCl_3	OC_2H_5
180	(S) $CH(CH_3)$-CCl_3	$N(CH_3)_2$
181	(S) $CH(CH_3)$-CCl_3	$N(CH_3)C_2H_5$
182	(S) $CH(CH_3)$-CCl_3	$N(CH_3)C(O)CH_3$
183	(R) $CH(CH_3)$-CCl_3	H
184	(R) $CH(CH_3)$-CCl_3	CH_3
185	(R) $CH(CH_3)$-CCl_3	CH_2CH_3
186	(R) $CH(CH_3)$-CCl_3	Cl
187	(R) $CH(CH_3)$-CCl_3	OCH_3

No.	Y-R^1	X-R^2
188	(R) $CH(CH_3)$-CCl_3	OC_2H_5
189	(R) $CH(CH_3)$-CCl_3	$N(CH_3)_2$
190	(R) $CH(CH_3)$-CCl_3	$N(CH_3)C_2H_5$
191	(R) $CH(CH_3)$-CCl_3	$N(CH_3)C(O)CH_3$
192	$CH_2CF_2CF_3$	H
193	$CH_2CF_2CF_3$	CH_3
194	$CH_2CF_2CF_3$	CH_2CH_3
195	$CH_2CF_2CF_3$	Cl
196	$CH_2CF_2CF_3$	OCH_3
197	$CH_2CF_2CF_3$	OC_2H_5
198	$CH_2CF_2CF_3$	$N(CH_3)_2$
199	$CH_2CF_2CF_3$	$N(CH_3)C_2H_5$
200	$CH_2CF_2CF_3$	$N(CH_3)C(O)CH_3$
201	$CH_2(CF_2)_2CF_3$	H
202	$CH_2(CF_2)_2CF_3$	CH_3
203	$CH_2(CF_2)_2CF_3$	CH_2CH_3
204	$CH_2(CF_2)_2CF_3$	Cl
205	$CH_2(CF_2)_2CF_3$	OCH_3
206	$CH_2(CF_2)_2CF_3$	OC_2H_5
207	$CH_2(CF_2)_2CF_3$	$N(CH_3)_2$
208	$CH_2(CF_2)_2CF_3$	$N(CH_3)C_2H_5$
209	$CH_2(CF_2)_2CF_3$	$N(CH_3)C(O)CH_3$
210	$CH_2C(CH_3)=CH_2$	H
211	$CH_2C(CH_3)=CH_2$	CH_3
212	$CH_2C(CH_3)=CH_2$	CH_2CH_3
213	$CH_2C(CH_3)=CH_2$	Cl
214	$CH_2C(CH_3)=CH_2$	OCH_3
215	$CH_2C(CH_3)=CH_2$	OC_2H_5
216	$CH_2C(CH_3)=CH_2$	$N(CH_3)_2$
217	$CH_2C(CH_3)=CH_2$	$N(CH_3)C_2H_5$

No.	Y-R^1	X-R^2
218	$CH_2C(CH_3)=CH_2$	$N(CH_3)C(O)CH_3$
219	$CH_2CH=CH_2$	H
220	$CH_2CH=CH_2$	CH_3
221	$CH_2CH=CH_2$	CH_2CH_3
222	$CH_2CH=CH_2$	Cl
223	$CH_2CH=CH_2$	OCH_3
224	$CH_2CH=CH_2$	OC_2H_5
225	$CH_2CH=CH_2$	$N(CH_3)_2$
226	$CH_2CH=CH_2$	$N(CH_3)C_2H_5$
227	$CH_2CH=CH_2$	$N(CH_3)C(O)CH_3$
228	$CH(CH_3)CH=CH_2$	H
229	$CH(CH_3)CH=CH_2$	CH_3
230	$CH(CH_3)CH=CH_2$	CH_2CH_3
231	$CH(CH_3)CH=CH_2$	Cl
232	$CH(CH_3)CH=CH_2$	OCH_3
233	$CH(CH_3)CH=CH_2$	OC_2H_5
234	$CH(CH_3)CH=CH_2$	$N(CH_3)_2$
235	$CH(CH_3)CH=CH_2$	$N(CH_3)C_2H_5$
236	$CH(CH_3)CH=CH_2$	$N(CH_3)C(O)CH_3$
237	$CH(CH_3)C(CH_3)=CH_2$	H
238	$CH(CH_3)C(CH_3)=CH_2$	CH_3
239	$CH(CH_3)C(CH_3)=CH_2$	CH_2CH_3
240	$CH(CH_3)C(CH_3)=CH_2$	Cl
241	$CH(CH_3)C(CH_3)=CH_2$	OCH_3
242	$CH(CH_3)C(CH_3)=CH_2$	OC_2H_5
243	$CH(CH_3)C(CH_3)=CH_2$	$N(CH_3)_2$
244	$CH(CH_3)C(CH_3)=CH_2$	$N(CH_3)C_2H_5$
245	$CH(CH_3)C(CH_3)=CH_2$	$N(CH_3)C(O)CH_3$
246	cyclopentyl	H
247	cyclopentyl	CH_3

No.	Y-R^1	X-R^2
248	cyclopentyl	CH_2CH_3
249	cyclopentyl	Cl
250	cyclopentyl	OCH_3
251	cyclopentyl	OC_2H_5
252	cyclopentyl	$N(CH_3)_2$
253	cyclopentyl	$N(CH_3)C_2H_5$
254	cyclopentyl	$N(CH_3)C(O)CH_3$
255	cyclohexyl	H
256	cyclohexyl	CH_3
257	cyclohexyl	CH_2CH_3
258	cyclohexyl	Cl
259	cyclohexyl	OCH_3
260	cyclohexyl	OC_2H_5
261	cyclohexyl	$N(CH_3)_2$
262	cyclohexyl	$N(CH_3)C_2H_5$
263	cyclohexyl	$N(CH_3)C(O)CH_3$
264	CF_3	H
265	CF_3	CH_3
266	CF_3	CH_2CH_3
267	CF_3	Cl
268	CF_3	OCH_3
269	CF_3	OC_2H_5
270	CF_3	$N(CH_3)_2$
271	CF_3	$N(CH_3)C_2H_5$
272	CF_3	$N(CH_3)C(O)CH_3$
273	CCl_3	H
274	CCl_3	CH_3
275	CCl_3	CH_2CH_3
276	CCl_3	Cl
277	CCl_3	OCH_3

No.	Y-R^1	X-R^2
278	CCl_3	OC_2H_5
279	CCl_3	$N(CH_3)_2$
280	CCl_3	$N(CH_3)C_2H_5$
281	CCl_3	$N(CH_3)C(O)CH_3$
282	CF_2CF_3	H
283	CF_2CF_3	CH_3
284	CF_2CF_3	CH_2CH_3
285	CF_2CF_3	Cl
286	CF_2CF_3	OCH_3
287	CF_2CF_3	OC_2H_5
288	CF_2CF_3	$N(CH_3)_2$
289	CF_2CF_3	$N(CH_3)C_2H_5$
290	CF_2CF_3	$N(CH_3)C(O)CH_3$
291	$(CF_2)_2CF_3$	H
292	$(CF_2)_2CF_3$	CH_3
293	$(CF_2)_2CF_3$	CH_2CH_3
294	$(CF_2)_2CF_3$	Cl
295	$(CF_2)_2CF_3$	OCH_3
296	$(CF_2)_2CF_3$	OC_2H_5
297	$(CF_2)_2CF_3$	$N(CH_3)_2$
298	$(CF_2)_2CF_3$	$N(CH_3)C_2H_5$
299	$(CF_2)_2CF_3$	$N(CH_3)C(O)CH_3$
300	$C(CH_3)=CH_2$	H
301	$C(CH_3)=CH_2$	CH_3
302	$C(CH_3)=CH_2$	CH_2CH_3
303	$C(CH_3)=CH_2$	Cl
304	$C(CH_3)=CH_2$	OCH_3
305	$C(CH_3)=CH_2$	OC_2H_5
306	$C(CH_3)=CH_2$	$N(CH_3)_2$
307	$C(CH_3)=CH_2$	$N(CH_3)C_2H_5$

No.	Y-R^1	X-R^2
308	$C(CH_3)=CH_2$	$N(CH_3)C(O)CH_3$
309	$CH=CH_2$	H
310	$CH=CH_2$	CH_3
311	$CH=CH_2$	CH_2CH_3
312	$CH=CH_2$	Cl
313	$CH=CH_2$	OCH_3
314	$CH=CH_2$	OC_2H_5
315	$CH=CH_2$	$N(CH_3)_2$
316	$CH=CH_2$	$N(CH_3)C_2H_5$
317	$CH=CH_2$	$N(CH_3)C(O)CH_3$
318	phenyl	H
319	phenyl	CH_3
320	phenyl	CH_2CH_3
321	phenyl	Cl
322	phenyl	OCH_3
323	phenyl	OC_2H_5
324	phenyl	$N(CH_3)_2$
325	phenyl	$N(CH_3)C_2H_5$
326	phenyl	$N(CH_3)C(O)CH_3$
327	CH_2phenyl	H
328	CH_2phenyl	CH_3
329	CH_2phenyl	CH_2CH_3
330	CH_2phenyl	Cl
331	CH_2phenyl	OCH_3
332	CH_2phenyl	OC_2H_5
333	CH_2phenyl	$N(CH_3)_2$
334	CH_2phenyl	$N(CH_3)C_2H_5$
335	CH_2phenyl	$N(CH_3)C(O)CH_3$
336	$-(CH_2)_2CH=CHCH_2-$	
337	$-(CH_2)_2C(CH_3)=CHCH_2-$	

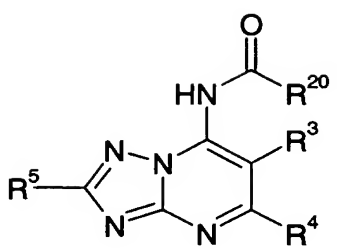
No.	$Y\text{-}R^1$	$X\text{-}R^2$
338	$-(CH_2)_2CH(CH_3)(CH_2)_2-$	
339	$-(CH_2)_2CHF(CH_2)_2-$	
340	$-(CH_2)_3CHFCH_2-$	
341	$-(CH_2)_2CH(CF_3)(CH_2)_2-$	
342	$-(CH_2)_2O(CH_2)_2-$	
343	$-(CH_2)_2S(CH_2)_2-$	
344	$-(CH_2)_5-$	
345	$-(CH_2)_6-$	
346	$-(CH_2)_4-$	
347	$-CH_2CH=CHCH_2-$	
348	$-CH(CH_3)(CH_2)_3-$	
349	$-CH_2CH(CH_3)(CH_2)_2-$	
350	1-piperidinyl	H
351	1-piperidinyl	CH_3
352	1-piperidinyl	CH_2CH_3
353	1-pyrrolidinyl	H
354	1-pyrrolidinyl	CH_3
355	1-pyrrolidinyl	CH_2CH_3
356	morpholin-4-yl	H
357	morpholin-4-yl	CH_3
358	morpholin-4-yl	CH_2CH_3
359	2,5-dihydropyrrol-1-yl	H
360	2,5-dihydropyrrol-1-yl	CH_3
361	2,5-dihydropyrrol-1-yl	CH_2CH_3
362	H	Cl
363	H	OCH_3
364	H	OC_2H_5
365	H	$N(CH_3)_2$
366	H	$N(CH_3)C_2H_5$
367	H	$N(CH_3)C(O)CH_3$

No.	Y-R^1	X-R^2
368	H	$CH(CH_3)_2$
369	H	$CH_2CH(CH_3)_2$
370	H	$CH(CH_3)CH_2CH_3$
371	H	$C(CH_3)_3$
372	CH_3	$CH(CH_3)_2$
373	CH_3	$CH_2CH(CH_3)_2$
374	CH_3	$CH(CH_3)CH_2CH_3$
375	CH_3	$C(CH_3)_3$
376	CH_2CH_3	$CH_2CH(CH_3)_2$
377	CH_2CH_3	$CH(CH_3)CH_2CH_3$
378	CH_2CH_3	$C(CH_3)_3$
379	CH_2CF_3	$CH(CH_3)_2$
380	CH_2CF_3	$CH_2CH(CH_3)_2$
381	CH_2CF_3	$CH(CH_3)CH_2CH_3$
382	CH_2CF_3	$C(CH_3)_3$
383	$CH_2CH_2CH_3$	$CH(CH_3)_2$
384	$CH_2CH_2CH_3$	$CH_2CH(CH_3)_2$
385	$CH_2CH_2CH_3$	$CH(CH_3)CH_2CH_3$
386	$CH_2CH_2CH_3$	$C(CH_3)_3$
387	$CH(CH_3)_2$	$CH(CH_3)_2$
388	$CH(CH_3)_2$	$CH_2CH(CH_3)_2$
389	$CH(CH_3)_2$	$CH(CH_3)CH_2CH_3$
390	$CH(CH_3)_2$	$C(CH_3)_3$
391	(±)$CH(CH_3)$-CF_3	$CH(CH_3)_2$
392	(±)$CH(CH_3)$-CF_3	$CH_2CH(CH_3)_2$
393	(±)$CH(CH_3)$-CF_3	$CH(CH_3)CH_2CH_3$
394	(±)$CH(CH_3)$-CF_3	$C(CH_3)_3$
395	(S)($CH(CH_3)$-CF_3	$CH(CH_3)_2$
396	(S)($CH(CH_3)$-CF_3	$CH_2CH(CH_3)_2$
397	(S)($CH(CH_3)$-CF_3	$CH(CH_3)CH_2CH_3$

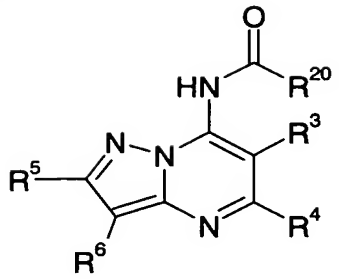
No.	Y-R^1	X-R^2
398	(S)($CH(CH_3)$-CF_3	$C(CH_3)_3$
399	$CH_2CF_2CF_3$	$CH(CH_3)_2$
400	$CH_2CF_2CF_3$	$CH_2CH(CH_3)_2$
401	$CH_2CF_2CF_3$	$CH(CH_3)CH_2CH_3$
402	$CH_2CF_2CF_3$	$C(CH_3)_3$
403	CF_3	$CH(CH_3)_2$
404	CF_3	$CH_2CH(CH_3)_2$
405	CF_3	$CH(CH_3)CH_2CH_3$
406	CF_3	$C(CH_3)_3$
407	CF_2CF_3	$CH(CH_3)_2$
408	CF_2CF_3	$CH_2CH(CH_3)_2$
409	CF_2CF_3	$CH(CH_3)CH_2CH_3$
410	CF_2CF_3	$C(CH_3)_3$
411	$(CF_2)_2CF_3$	$CH(CH_3)_2$
412	$(CF_2)_2CF_3$	$CH_2CH(CH_3)_2$
413	$(CF_2)_2CF_3$	$CH(CH_3)CH_2CH_3$
414	$(CF_2)_2CF_3$	$C(CH_3)_3$

Further preferred embodiments of the invention relate to tautomers of the formula II. Among the tautomers of the formula II, preference is given to those compounds in which W^a is O or S. In the tautomers of the formula II, V is preferably a chemical bond. With respect to preferred meanings of the variables R^3, R^4, R^5 and A, what was stated above for formula I applies. Preferred radicals R^{20} are those which are indicated in formula I as preferred radicals for R^1 or R^2. In particular, R^{20} is a radical of the formula C or B as indicated for R^1 or R^2.

Preferred tautomers II are in particular the compounds of the formulae II-A and II-B



(II-A)



(II-B)

in which R^3, R^4, R^5, R^6 and R^{20} have the meanings indicated above.

Particularly preferred among these are the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A1 and II-B1). Examples of these are the compounds II-A1.1 to II-A1.39 and II-B1.1 to II-B1.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A2 and II-B2). Examples of these are the compounds II-A2.1 to II-A2.39 and II-B2.1 to II-B2.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are furthermore the compounds of the formulae II-A and II-B in which R^3 is 2,6-dichlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A3 and II-B3). Examples of these are the compounds II-A3.1 to II-A3.39 and II-B3.1 to II-B3.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A4 and II-B4). Examples of these are the compounds II-A4.1 to II-A4.39 and II-B4.1 to II-B4.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4,6-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A5 and II-B5). Examples of these are the compounds II-A5.1 to II-A5.39 and II-B5.1 to II-B5.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A6 and II-B6). Examples of these are the compounds II-A6.1 to II-A6.39 and II-B6.1 to II-B6.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-chloro-6-methylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A7 and II-B7). Examples of these are the compounds II-A7.1 to II-A7.39 and II-B7.1 to II-B7.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is pentafluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A8 and II-B8). Examples of these are the compounds II-A8.1 to II-A8.39 and II-B8.1 to II-B8.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A9 and II-B9). Examples of these are the compounds II-A9.1 to II-A9.39 and II-B9.1 to II-B9.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A10 and II-B10). Examples of these are the

compounds II-A10.1 to II-A10.39 and II-B10.1 to II-B10.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A11 and II-B11). Examples of these are the compounds II-A11.1 to II-A11.39 and II-B11.1 to II-B11.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A12 and II-B12). Examples of these are the compounds II-A12.1 to II-A12.39 and II-B12.1 to II-B12.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A13 and II-B13). Examples of these are the compounds II-A13.1 to II-A13.39 and II-B13.1 to II-B13.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4-difluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A14 and II-B14). Examples of these are the compounds II-A14.1 to II-A14.39 and II-B14.1 to II-B14.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A15 and II-B15). Examples of these are the compounds II-A15.1 to II-A15.39 and II-B15.1 to II-B15.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 4-fluoro-2-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A16 and II-B16). Examples of these are the compounds II-A16.1 to II-A16.39 and II-B16.1 to II-B16.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,3-difluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A17 and II-B17). Examples of these are the compounds II-A17.1 to II-A17.39 and II-B17.1 to II-B17.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,5-difluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A18 and II-B18). Examples of these are the compounds II-A18.1 to II-A18.39 and II-B18.1 to II-B18.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,3,4-trifluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A19 and II-B19). Examples of these are the compounds II-A19.1 to II-A19.39 and II-B19.1 to II-B19.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A20 and II-B20). Examples of these are the compounds II-A20.1 to II-A20.39 and II-B20.1 to II-B20.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A21 and II-B21). Examples of these are the compounds

II-A21.1 to II-A21.39 and II-B21.1 to II-B21.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methyl-4-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A22 and II-B22). Examples of these are the compounds II-A22.1 to II-A22.39 and II-B22.1 to II-B22.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A23 and II-B23). Examples of these are the compounds II-A23.1 to II-A23.39 and II-B23.1 to II-B23.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-dimethylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A24 and II-B24). Examples of these are the compounds II-A24.1 to II-A24.39 and II-B24.1 to II-B24.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4,5-trimethylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A25 and II-B25). Examples of these are the compounds II-A25.1 to II-A25.39 and II-B25.1 to II-B25.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A26 and II-B26). Examples of these are the compounds II-A26.1 to II-A26.39 and II-B26.1 to II-B26.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A27 and II-B27). Examples of these are the compounds II-A27.1 to II-A27.39 and II-B27.1 to II-B27.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A28 and II-B28). Examples of these are the compounds II-A28.1 to II-A28.39 and II-B28.1 to II-B28.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-29 and II-B29). Examples of these are the compounds II-A29.1 to II-A29.39 and II-B29.1 to II-B29.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A30 and II-B30). Examples of these are the compounds II-A30.1 to II-A30.39 and II-B30.1 to II-B30.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is chlorine, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A31 and II-B31). Examples of these are the compounds II-A31.1 to II-A31.39 and II-B31.1 to II-B31.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are furthermore the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-6-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A32 and II-B32). Examples of these are

the compounds II-A32.1 to II-A32.39 and II-B32.1 to II-B32.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A33 and II-B33). Examples of these are the compounds II-A33.1 to II-A33.39 and II-B33.1 to II-B33.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are furthermore the compounds of the formulae II-A and II-B in which R^3 is 2,6-dichlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A34 and II-B34). Examples of these are the compounds II-A34.1 to II-A34.39 and II-B34.1 to II-B34.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A35 and II-B35). Examples of these are the compounds II-A35.1 to II-A35.39 and II-B35.1 to II-B35.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4,6-trifluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A36 and II-B36). Examples of these are the compounds II-A36.1 to II-A36.39 and II-B36.1 to II-B36.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methoxyphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A37 and II-B37). Examples of these are the compounds II-A37.1 to II-A37.39 and II-B37.1 to II-B37.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-chloro-6-methylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A38 and II-B38). Examples of these are the compounds II-A38.1 to II-A38.39 and II-B38.1 to II-B38.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A39 and II-B39). Examples of these are the compounds II-A39.1 to II-A39.39 and II-B39.1 to II-B39.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is pentafluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A40 and II-B40). Examples of these are the compounds II-A40.1 to II-A40.39 and II-B40.1 to II-B40.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A41 and II-B41). Examples of these are the compounds II-A41.1 to II-A41.39 and II-B41.1 to II-B41.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methoxy-6-fluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A42 and II-B42). Examples of these are the compounds II-A42.1 to II-A42.39 and II-B42.1 to II-B42.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A43 and II-B43). Examples of these are the compounds

II-A43.1 to II-A43.39 and II-B43.1 to II-B43.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A44 and II-B44). Examples of these are the compounds II-A44.1 to II-A44.39 and II-B44.1 to II-B44.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4-difluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A45 and II-B45). Examples of these are the compounds II-A45.1 to II-A45.39 and II-B45.1 to II-B45.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-46 and II-B46). Examples of these are the compounds II-A46.1 to II-A46.39 and II-B46.1 to II-B46.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 4-fluoro-2-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A47 and II-B47). Examples of these are the compounds II-A47.1 to II-A47.39 and II-B47.1 to II-B47.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,3-difluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A48 and II-B48). Examples of these are the compounds II-A48.1 to II-A48.39 and II-B48.1 to II-B48.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,5-difluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A49 and II-B49). Examples of these are the compounds II-A49.1 to II-A49.39 and II-B49.1 to II-B49.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,3,4-trifluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A50 and II-B50). Examples of these are the compounds II-A50.1 to II-A50.39 and II-B50.1 to II-B50.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A51 and II-B51). Examples of these are the compounds II-A51.1 to II-A51.39 and II-B51.1 to II-B51.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4-dimethylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A52 and II-B52). Examples of these are the compounds II-A52.1 to II-A52.39 and II-B52.1 to II-B52.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-methyl-4-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A53 and II-B53). Examples of these are the compounds II-A53.1 to II-A53.39 and II-B53.1 to II-B53.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-fluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A54 and II-B54). Examples of these are the

compounds II-A54.1 to II-A54.39 and II-B54.1 to II-B54.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-dimethylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A55 and II-B55). Examples of these are the compounds II-A55.1 to II-A55.39 and II-B55.1 to II-B55.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,4,5-trimethylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A56 and II-B56). Examples of these are the compounds II-A56.1 to II-A56.39 and II-B56.1 to II-B56.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-cyanophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A57 and II-B57). Examples of these are the compounds II-A57.1 to II-A57.39 and II-B57.1 to II-B57.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A58 and II-B58). Examples of these are the compounds II-A58.1 to II-A58.39 and II-B58.1 to II-B58.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2,6-difluoro-4-methoxycarbonylphenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A59 and II-B59). Examples of these are the compounds II-A59.1 to II-A59.39 and II-B59.1 to II-B59.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are also the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-4-fluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-60 and II-B60). Examples of these are the compounds II-A60.1 to II-A60.39 and II-B60.1 to II-B60.39 in which R^{20} has the meaning given in one row of Table B.

Particularly preferred among these are the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-5-fluorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A61 and II-B61). Examples of these are the compounds II-A61.1 to II-A61.39 and II-B61.1 to II-B61.39 in which R^{20} has the meaning given in one row of Table B.

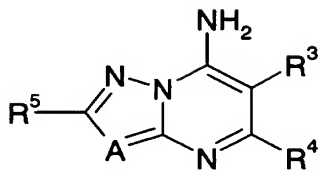
Particularly preferred among these are the compounds of the formulae II-A and II-B in which R^3 is 2-trifluoromethyl-5-chlorophenyl, R^4 is methyl, R^5 is hydrogen, R^6 is hydrogen and R^{20} has the meanings mentioned above and in particular the meanings mentioned as being preferred (compounds II-A62 and II-B62). Examples of these are the compounds II-A62.1 to II-A62.39 and II-B62.1 to II-B62.39 in which R^{20} has the meaning given in one row of Table B.

Table B

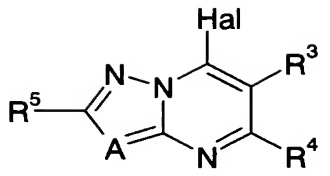
No.	R^{20}
1	H
2	CH_3
3	CH_2CH_3
4	CH_2CF_3
5	CH_2CCl_3
6	$CH_2CH_2CH_3$
7	$CH(CH_3)_2$
8	(±) $CH(CH_3)$-CH_2CH_3
9	(S) $CH(CH_3)$-CH_2CH_3
10	(R) $CH(CH_3)$-CH_2CH_3
11	(±) $CH(CH_3)$-$CH(CH_3)_2$
12	(S) $CH(CH_3)$-$CH(CH_3)_2$
13	(R) $CH(CH_3)$-$CH(CH_3)_2$

No.	R^{20}
14	(±) $CH(CH_3)$-$C(CH_3)_3$
15	(S) $CH(CH_3)$-$C(CH_3)_3$
16	(R) $CH(CH_3)$-$C(CH_3)_3$
17	(±) $CH(CH_3)$-CF_3
18	(S) $CH(CH_3)$-CF_3
19	(R) $CH(CH_3)$-CF_3
20	(±) $CH(CH_3)$-CCl_3
21	(S) $CH(CH_3)$-CCl_3
22	(R) $CH(CH_3)$-CCl_3
23	$CH_2CF_2CF_3$
24	$CH_2(CF_2)_2CF_3$
25	$CH_2C(CH_3)=CH_2$
26	$CH_2CH=CH_2$
27	$CH(CH_3)CH=CH_2$
28	$CH(CH_3)C(CH_3)=CH_2$
29	cyclopentyl
30	cyclohexyl
31	cyclopropyl
32	CF_3
33	CCl_3
34	CF_2CF_3
35	$(CF_2)_2CF_3$
36	$C(CH_3)=CH_2$
37	$CH=CH_2$
38	phenyl
39	CH_2phenyl

The compounds of the formula I according to the invention can be prepared analogously to prior art methods known per se, starting from 7-aminoazolopyrimidines of the formula III or 7-haloazolopyrimidines of the formula IV



(III);

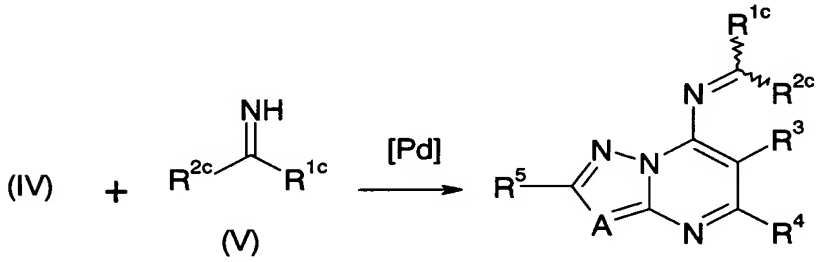


(IV)

according to the syntheses shown in the schemes below. In the compounds of the formulae III and IV, A, R^3, R^4 and R^5 have the meanings indicated above. Hal is halogen, in particular chlorine or bromine. The compounds III and IV are known from the prior art cited at the outset or can be prepared analogously to the processes described therein.

Compounds of the formula I in which X and Y are a chemical bond can be prepared, for example, according to the method described by G. A. Grasa et al. J. Org. Chem. 2001, 66(23) pp. 7729-7737 or Stauffer et al., Org. Lett. 2002, 2(10), pp. 1423-1426 by reacting the 7-haloazolopyrimidine IV with an imine of the formula V in the presence of palladium catalysts (see scheme 1)

Scheme 1:

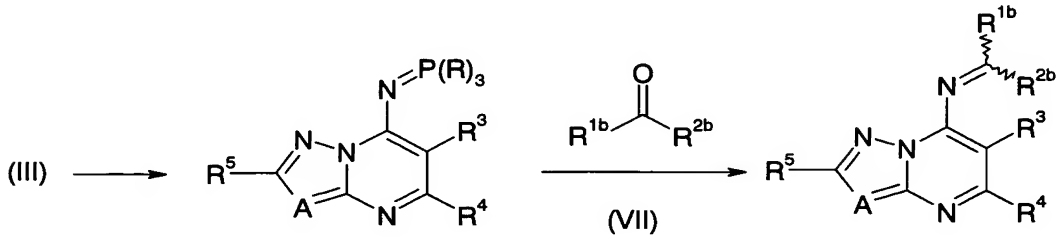


In scheme 1, A, R^3, R^4 and R^5 have the meanings indicated above. R^{1c} and R^{2c} independently of one another are hydrogen or have the meanings given for R^1 and R^2, respectively, or R^{1c} and R^{2c} together with the carbon atom, to which they are attached, form a 5-, 6- or 7-membered saturated or unsaturated carbo- or heterocycle, where the latter may have 1, 2, 3 or 4 heteroatoms selected from the group consisting of O, S and N as ring members, where the carbo- and the heterocycle may be partially or fully halogenated or have 1, 2, 3 or 4 of the radicals R^7 and/or R^8.

Compounds of the formula I in which X and Y are a chemical bond can furthermore be prepared according to the process shown in scheme 2 from the corresponding 7-aminoazolopyrimidines III. To this end, compound III is initially converted using the method described by Llamas-Saiz et al. (J. Chem. Soc. Perkin Trans. 2, 1991, pp. 1667-1676) into the phosphaimine VI, which can then be converted into the

corresponding compound I by reacting either an aldehyde or a ketone VII according to the methods described by Bravo et al. Synlett 1996, p. 887 ff. and Takahashi et al., Synthesis, 1998, pp. 986-990 (see scheme 2):

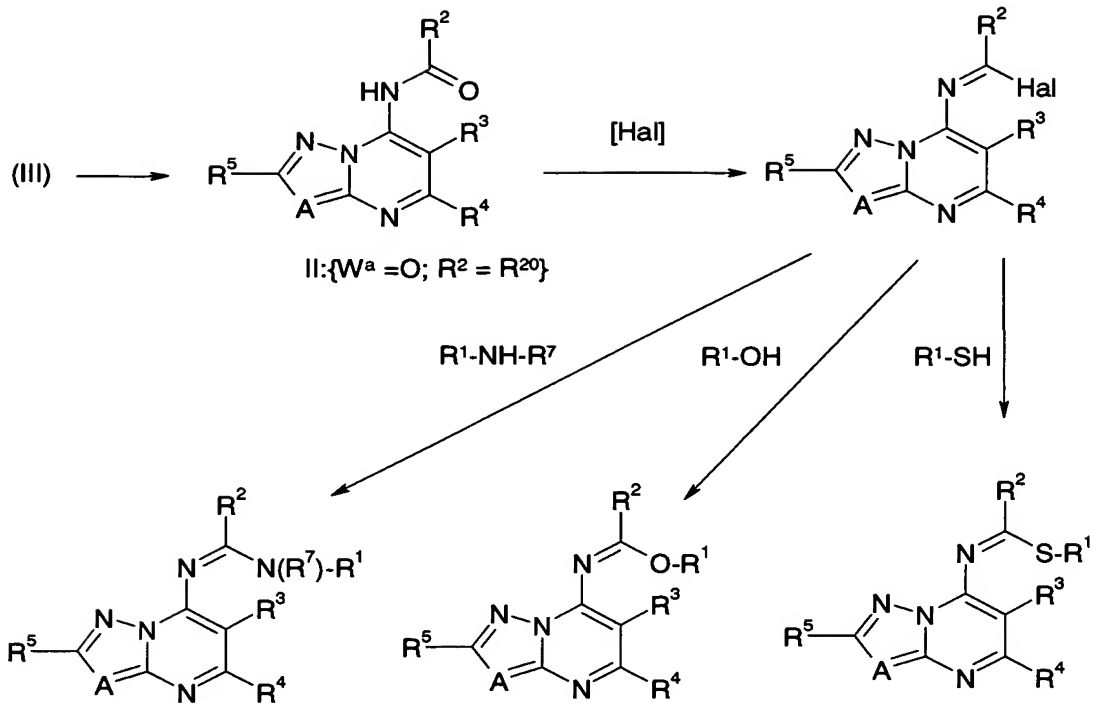
Scheme 2:



In scheme 2, A, R^3, R^4 and R^5 are as defined above. R^{1b} and R^{2b} independently of one another are hydrogen or have the meanings given for R^1 and R^2, respectively, or R^{1b} and R^{2b} together with the carbon atom, to which they are attached, form a 5-, 6- or 7-membered saturated or unsaturated carbo- or heterocycle, where the latter may have 1, 2, 3 or 4 heteroatoms selected from the group consisting of O, S and N as ring members, where the carbo- and the heterocycle may be partially or fully halogenated or have 1, 2, 3 or 4 of the radicals R^7 and/or R^8. R is aryl such as phenyl, which is optionally substituted, for example with 1, 2 or 3 substituents selected from the group consisting of halogen, alkyl and alkoxy.

Compounds of the formula I in which Y-R^1 (or X-R^2) is halogen, X (or Y) is a single bond and R^2 is as defined above may be prepared from the corresponding tautomers of the formula II in which W^a is oxygen, R^{20} corresponds to the radical R^2 and V is a bond, according to the method described by Stevens et al., J. Am. Chem. Soc. 1953, 75, pp. 657-660 by reaction with a halogenating agent [Hal] (see scheme 3).

Scheme 3:

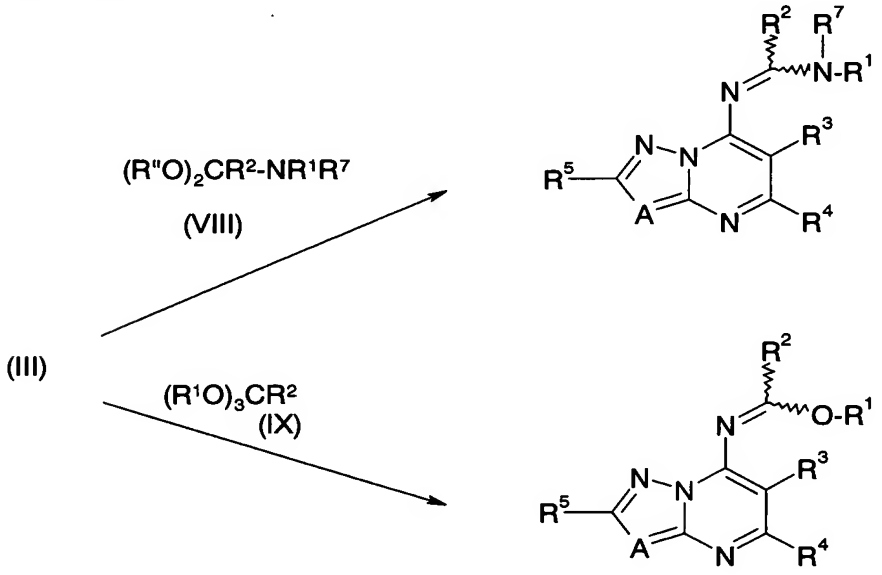


In scheme 3, A, R^1, R^3, R^4, R^5 and R^7 are as defined above. Examples of halogenating agents [Hal] are phosphorus halides and sulfur halogen compounds, such as phosphorus oxybromide, phosphorus oxychloride, phosphorus pentachloride, thionyl chloride, thionyl bromide or sulfuryl chloride. The reaction can be carried out in the absence of a solvent or in the presence of a solvent. In one embodiment the reaction is carried out in the presence of a tertiary amine such as triethylamine or pyridine as base. In another preferred embodiment, the reaction is carried out in an aromatic hydrocarbon, such as toluene, in the presence of catalytic amounts of an amide, such as dimethylformamide. Customary reaction temperatures are from –20 to 200°C or, preferably, from 0 to 160°C.

The halogen compounds I in which Y-R^1 (or X-R^2) is halogen can for their part be converted into the corresponding compounds I in which Y is oxygen by reacting them with an alcohol of the formula R^1-OH according to the method described by Stevens et al., J. Am. Chem. Soc. 1953, 75, pp. 657-660. In an analogous manner, the compounds I in which X-R^2 is halogen afford the compounds I in which X is oxygen. Moreover, in an analogous manner, it is possible to prepare the compounds of the formula I in which X is a bond and Y is a group R^7 by reaction with secondary amines of the formula R^1-NH-R^7. Moreover, in an analogous manner, it is possible to prepare the compounds of the formula I in which X is a bond and Y is S by reaction with thioalcohols of the formula R^1-SH (see scheme 3).

Compounds of the formula I in which X is a chemical bond and Y-R^1 is a radical of the formula $N(R^7)R^1$ can be prepared from the compounds III by reaction with carboxamide analogs VIII according to the methods described by S. Leistner et al., Pharmazie 1991, 46, pp. 457-458, and Troschütz et al., Arch. Pharm. 1993, 326, 857-864 (see scheme 4). R" is C_1-C_6-alkyl. Compounds of the formula I in which X is a chemical bond and Y is O can be prepared by reacting III with orthoesters of the formula IX according to the method described by Troschütz et al. Arch. Pharm. 1993, 326, 857-864 (see scheme 4). In scheme 4, A, R^1, R^2, R^3, R^4, R^5 and R^7 are as defined above.

Scheme 4:

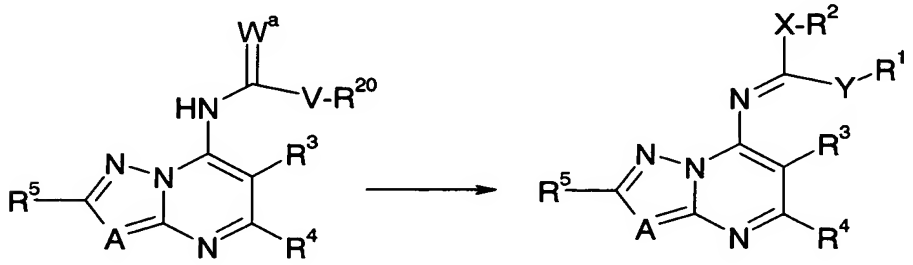


The tautomers of the formula II in which W^a = O and V is a chemical bond can be prepared by customary amidation processes from the 7-aminoazolopyrimidines III, for example by reaction with carboxylic acids or carboxylic acid derivatives of the formula R^{23}-CO-L in which R^{23} has one of the meanings given for R^{20} and L is a nucleophilically replaceable leaving group, for example OH, halogen, in particular chlorine, or the radical of an activated ester group, such as p-nitrophenoxy, if appropriate in the presence of suitable catalysts, auxiliary bases, for example tertiary amines, such as triethylamine or pyridine compounds, and/or dehydrating agents, for example carbodiimides. Methods to achieve this are known from the prior art and can be applied analogously to the preparation of the compounds II where W^a = O (see, for example, Werbel et al. J. Heterocycl Chem. 1987, 24, p. 345; Stevens et al. loc.cit., see also J. March, "Advanced Organic Synthesis", 3rd edition, Wiley & Sons, New York 1985, pp. 370-376 and the literature cited therein). Compounds II where W^a = S can be

prepared from the compounds II where W^a = O by reaction with sulfurizing agents. In an analogous manner, compounds of the formula II in which V is O or S can be prepared by reacting III with derivatives of carbonic acid or thiocarbonic acid, for example chloroformic esters or carbonates. Compounds II in which V is NH can be prepared by reacting III with isocyanates or isothiocyanates.

Compounds of the formula II in which W^a is S or O can also be converted into the corresponding compounds I in which X is O or S by using alkylating agents (scheme 5). In scheme 5, A, R^1, R^2, R^3, R^4, R^5 and R^{20} have the meanings given above. W^a and X are S or O. Y has the meanings indicated above and is in particular a chemical bond.

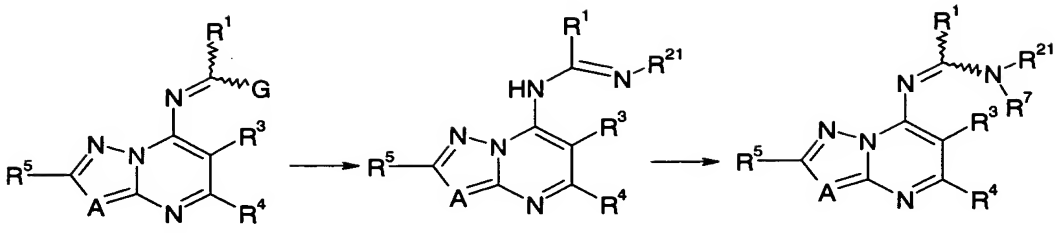
Scheme 5:



II {W^a = S, O} I {X = S, O; V = Y}

It is furthermore possible to convert compounds of the formula I given below in which Y is a chemical bond and X is oxygen and compounds I in which X-R^2 is halogen and Y is a chemical bond by reaction with ammonia or a primary amine H_2N-R^{21} into compounds II in which W^a is a group NH or NR^{21} and Y-R^{20} corresponds to the group R^1 (scheme 6). By alkylation with an alkylating agent R^7-L in which L is a nucleophilically replaceable leaving group, for example halogen, (halo)alkylsulfonate, such as mesylate or triflate, or arylsulfonate, such as tosylate, these compounds can then be converted into the imides I in which Y is a chemical bond and X is a group NR^7 and R^{21} corresponds to the radical R^2.

Scheme 6:



I {G = Cl, OR²} II {W^a = NR²¹} I {X = NR⁷, R² = R²¹}

In scheme 6, A, R^1, R^2, R^3, R^4, R^5 and R^7 are as defined above.

The reactions shown in schemes 1 to 6 can be carried out in the absence of a solvent or in solution. Suitable solvents are water, aliphatic hydrocarbons, such as pentane, hexane, cyclohexane and petroleum ether, aromatic hydrocarbons, such as toluene, o-, m- and p-xylene, halogenated hydrocarbons, such as methylene chlorid, chloroform and chlorobenzene, ethers, such as diethyl ether, diisopropyl ether, tert-butyl methyl ether, dioxane, anisole and tetrahydrofuran, nitriles, such as acetonitrile and propionitrile, ketones, such as acetone, methyl ethyl ketone, diethyl ketone and tert-butyl methyl ketone, alcohols, such as methanol, ethanol, n-propanol, isopropanol, n-butanol and tert-butanol, and also dimethyl sulfoxide, dimethylformamide and dimethylacetamide, or hydrochloric acid or acetic acid. It is also possible to use mixtures of the solvents mentioned.

The reaction mixtures are worked up in a customary manner, for example by mixing with water, separating the phases and, if appropriate, chromatographic purification of the crude products. Some of the intermediates and end products are obtained in the form of colorless or slightly brownish viscous oils which can be purified or freed from volatile components under reduced pressure and at moderately elevated temperature. If the intermediates and end products are obtained as solids, purification can also be carried out by recrystallization or digestion.

If individual compounds I cannot be obtained by the routes described above, they can be prepared by derivatization of other compounds I.

If the synthesis yields mixtures of isomers, a separation is generally not necessarily required since in some cases the individual isomers can be interconverted during work-up for use or during application (for example under the action of light, acids or bases). Such conversions may also take place after use, for example, in the case of treatment of plants, in the treated plants, or in the harmful fungus to be controlled.

The compounds I are suitable as fungicides. They are distinguished by an outstanding effectiveness against a broad spectrum of phytopathogenic fungi, especially from the classes of the *Ascomycetes, Deuteromycetes, Oomycetes* and *Basidiomycetes*. Some are systemically effective and they can be used in plant protection as foliar and soil fungicides.

They are particularly important in the control of a multitude of fungi on various cultivated plants, such as wheat, rye, barley, oats, rice, corn, grass, bananas, cotton, soya, coffee, sugar cane, vines, fruits and ornamental plants, and vegetables, such as cucumbers, beans, tomatoes, potatoes and cucurbits, and on the seeds of these plants.

They are especially suitable for controlling the following plant diseases:

- *Alternaria* species on fruit and vegetables,
- *Bipolaris* and *Drechslera* species on cereals, rice and lawns,
- *Blumeria graminis* (powdery mildew) on cereals,
- *Botrytis cinerea* (gray mold) on strawberries, vegetables, ornamental plants and grapevines,
- *Erysiphe cichoracearum* and *Sphaerotheca fuliginea* on cucurbits,
- *Fusarium* and *Verticillium* species on various plants,
- *Mycosphaerella* species on cereals, bananas and peanuts,
- *Phytophthora infestans* on potatoes and tomatoes,
- *Plasmopara viticola* on grapevines,
- *Podosphaera leucotricha* on apples,
- *Pseudocercosporella herpotrichoides* on wheat and barley,
- *Pseudoperonospora* species on hops and cucumbers,
- *Puccinia* species on cereals,
- *Pyricularia oryzae* on rice,
- *Rhizoctonia* species on cotton, rice and lawns,
- *Septoria tritici* and *Stagonospora nodorum* on wheat,
- *Uncinula necator* on grapevines,
- *Ustilago* species on cereals and sugar cane, and
- *Venturia* species (scab) on apples and pears.

The compounds I are also suitable for controlling harmful fungi, such as *Paecilomyces variotii*, in the protection of materials (e.g. wood, paper, paint dispersions, fibers or fabrics) and in the protection of stored products.

The compounds I are employed by treating the fungi or the plants, seeds, materials or

soil to be protected from fungal attack with a fungicidally effective amount of the active compounds. The application can be carried out both before and after the infection of the materials, plants or seeds by the fungi.

The fungicidal compositions generally comprise between 0.1 and 95%, preferably between 0.5 and 90%, by weight of active compound.

When employed in plant protection, the amounts applied are, depending on the kind of effect desired, between 0.01 and 2.0 kg of active compound per ha.

In seed treatment, amounts of active compound of 0.001 to 0.1 g, preferably 0.01 to 0.05 g, per kilogram of seed are generally required.

When used in the protection of materials or stored products, the amount of active compound applied depends on the kind of application area and on the desired effect. Amounts customarily applied in the protection of materials are, for example, 0.001 g to 2 kg, preferably 0.005 g to 1 kg, of active compound per cubic meter of treated material.

The compounds I can be converted into the customary formulations, for example solutions, emulsions, suspensions, dusts, powders, pastes and granules. The application form depends on the particular purpose; in each case, it should ensure a fine and uniform distribution of the compound according to the invention.

The formulations are prepared in a known manner, for example by extending the active compound with solvents and/or carriers, if desired using emulsifiers and dispersants. Solvents/auxiliaries which are suitable are essentially:

- water, aromatic solvents (for example Solvesso products, xylene), paraffins (for example mineral oil fractions), alcohols (for example methanol, butanol, pentanol, benzyl alcohol), ketones (for example cyclohexanone, gamma-butyrolactone), pyrrolidones (NMP, NOP), acetates (glycol diacetate), glycols, fatty acid dimethylamides, fatty acids and fatty acid esters. In principle, solvent mixtures may also be used;
- carriers such as ground natural minerals (for example kaolins, clays, talc, chalk) and ground synthetic minerals (for example highly disperse silica, silicates); emulsifiers such as nonionic and anionic emulsifiers (for example polyoxyethylene fatty alcohol ethers, alkylsulfonates and arylsulfonates) and dispersants such as lignosulfite waste liquors and methylcellulose.

Suitable surfactants are alkali metal, alkaline earth metal and ammonium salts of

lignosulfonic acid, naphthalenesulfonic acid, phenolsulfonic acid, dibutylnaphthalene-sulfonic acid, alkylarylsulfonates, alkyl sulfates, alkylsulfonates, fatty alcohol sulfates, fatty acids and sulfated fatty alcohol glycol ethers, furthermore condensates of sulfonated naphthalene and naphthalene derivatives with formaldehyde, condensates of naphthalene or of naphthalenesulfonic acid with phenol and formaldehyde, polyoxyethylene octylphenol ether, ethoxylated isooctylphenol, octylphenol, nonylphenol, alkylphenol polyglycol ethers, tributylphenyl polyglycol ether, tristearylphenyl polyglycol ether, alkylaryl polyether alcohols, alcohol and fatty alcohol/ethylene oxide condensates, ethoxylated castor oil, polyoxyethylene alkyl ethers, ethoxylated polyoxypropylene, lauryl alcohol polyglycol ether acetal, sorbitol esters, lignosulfite waste liquors and methylcellulose.

Suitable for the preparation of directly sprayable solutions, emulsions, pastes or oil dispersions are mineral oil fractions of medium to high boiling point, such as kerosene or diesel oil, furthermore coal tar oils and oils of vegetable or animal origin, aliphatic, cyclic and aromatic hydrocarbons, for example toluene, xylene, paraffin, tetrahydronaphthalene, alkylated naphthalenes or their derivatives, methanol, ethanol, propanol, butanol, cyclohexanol, cyclohexanone, isophorone, strongly polar solvents, for example dimethyl sulfoxide, N-methylpyrrolidone and water.

Powders, materials for spreading and dustable products can be prepared by mixing or concomitantly grinding the active substances with a solid carrier.

Granules, for example coated granules, impregnated granules and homogeneous granules, can be prepared by binding the active compounds to solid carriers. Examples of solid carriers are mineral earths such as silica gels, silicates, talc, kaolin, attaclay, limestone, lime, chalk, bole, loess, clay, dolomite, diatomaceous earth, calcium sulfate, magnesium sulfate, magnesium oxide, ground synthetic materials, fertilizers, such as, for example, ammonium sulfate, ammonium phosphate, ammonium nitrate, ureas, and products of vegetable origin, such as cereal meal, tree bark meal, wood meal and nutshell meal, cellulose powders and other solid carriers.

In general, the formulations comprise from 0.01 to 95% by weight, preferably from 0.1 to 90% by weight, of the active compound. The active compounds are employed in a purity of from 90% to 100%, preferably 95% to 100% (according to NMR spectrum).

Examples of formulations comprise products for dilution with water, for example

A Water-soluble concentrates (SL)
10 parts by weight of a compound according to the invention are dissolved in water or in a water-soluble solvent. As an alternative, wetters or other auxiliaries are added. The active compound dissolves upon dilution with water;

B Dispersible concentrates (DC)
20 parts by weight of a compound according to the invention are dissolved in cyclohexanone with addition of a dispersant, for example polyvinylpyrrolidone. Dilution with water gives a dispersion;

C Emulsifiable concentrates (EC)
15 parts by weight of a compound according to the invention are dissolved in xylene with addition of calcium dodecylbenzenesulfonate and castor oil ethoxylate (in each case 5%). Dilution with water gives an emulsion;

D Emulsions (EW, EO)
40 parts by weight of a compound according to the invention are dissolved in xylene with addition of calcium dodecylbenzenesulfonate and castor oil ethoxylate (in each case 5%). This mixture is introduced into water by means of an emulsifying machine (Ultraturrax) and made into a homogeneous emulsion. Dilution with water gives an emulsion;

E Suspensions (SC, OD)
In an agitated ball mill, 20 parts by weight of a compound according to the invention are comminuted with addition of dispersants, wetters and water or an organic solvent to give a fine active compound suspension. Dilution with water gives a stable suspension of the active compound;

F Water-dispersible granules and water-soluble granules (WG, SG)
50 parts by weight of a compound according to the invention are ground finely with addition of dispersants and wetters and made into water-dispersible or water-soluble granules by means of technical appliances (for example extrusion, spray tower, fluidized bed). Dilution with water gives a stable dispersion or solution of the active compound;

G Water-dispersible powders and water-soluble powders (WP, SP)
75 parts by weight of a compound according to the invention are ground in a rotor–stator mill with addition of dispersants, wetting agents and silica gel. Dilution with water gives a stable dispersion or solution of the active compound;

and products to be applied undiluted, for example

H Dustable powders (DP)
5 parts by weight of a compound according to the invention are ground finely and mixed intimately with 95% of finely divided kaolin. This gives a dustable product;

I Granules (GR, FG, GG, MG)
0.5 part by weight of a compound according to the invention is ground finely and associated with 95.5% carriers. Current methods are extrusion, spray-drying or the fluidized bed. This gives granules to be applied undiluted;

J ULV solutions (UL)
10 parts by weight of a compound according to the invention are dissolved in an organic solvent, for example xylene. This gives a product to be applied undiluted.

The active compounds can be used as such, in the form of their formulations or the use forms prepared therefrom, for example in the form of directly sprayable solutions, powders, suspensions or dispersions, emulsions, oil dispersions, pastes, dustable products, materials for spreading, or granules, by means of spraying, atomizing, dusting, spreading or pouring. The use forms depend entirely on the intended purposes; the intention is to ensure in each case the finest possible distribution of the active compounds according to the invention.

Aqueous use forms can be prepared from emulsion concentrates, pastes or wettable powders (sprayable powders, oil dispersions) by adding water. To prepare emulsions, pastes or oil dispersions, the substances, as such or dissolved in an oil or solvent, can be homogenized in water by means of a wetter, tackifier, dispersant or emulsifier. Alternatively, it is possible to prepare concentrates composed of active substance, wetter, tackifier, dispersant or emulsifier and, if appropriate, solvent or oil, and such concentrates are suitable for dilution with water.

The active compound concentrations in the ready-to-use preparations can be varied within relatively wide ranges. In general, they are from 0.0001 to 10%, preferably from 0.01 to 1%.

The active compounds may also be used successfully in the ultra-low-volume process (ULV), by which it is possible to apply formulations comprising over 95% by weight of active compound, or even to apply the active compound without additives.

Various types of oils, wetters, adjuvants, herbicides, fungicides, other pesticides, or

bactericides may be added to the active compounds, if appropriate not until immediately prior to use (tank mix). These agents can be admixed with the compositions according to the invention in a weight ratio of 1:10 to 10:1.

The compositions according to the invention can, in the use form as fungicides, also be present together with other active compounds, e.g. with herbicides, insecticides, growth regulators, fungicides or else with fertilizers. Mixing the compounds I or the compositions comprising them in the use form as fungicides with other fungicides results in many cases in an expansion of the fungicidal spectrum of activity being obtained.

The following list of fungicides, in conjunction with which the compounds according to the invention can be used, is intended to illustrate the possible combinations but does not limit them:

- acylalanines, such as benalaxyl, metalaxyl, ofurace or oxadixyl,
- amine derivatives, such as aldimorph, dodine, dodemorph, fenpropimorph, fenpropidin, guazatine, iminoctadine, spiroxamine or tridemorph,
- anilinopyrimidines, such as pyrimethanil, mepanipyrim or cyprodinyl,
- antibiotics, such as cycloheximide, griseofulvin, kasugamycin, natamycin, polyoxin or streptomycin,
- azoles, such as bitertanol, bromoconazole, cyproconazole, difenoconazole, dinitroconazole, epoxiconazole, fenbuconazole, fluquinconazole, flusilazole, hexaconazole, imazalil, metconazole, myclobutanil, penconazole, propiconazole, prochloraz, prothioconazole, tebuconazole, triadimefon, triadimenol, triflumizole or triticonazole,
- dicarboximides, such as iprodione, myclozolin, procymidone or vinclozolin,
- dithiocarbamates, such as ferbam, nabam, maneb, mancozeb, metam, metiram, propineb, polycarbamate, thiram, ziram or zineb,
- heterocyclic compounds, such as anilazine, benomyl, boscalid, carbendazim, carboxin, oxycarboxin, cyazofamid, dazomet, dithianon, famoxadone, fenamidone, fenarimol, fuberidazole, flutolanil, furametpyr, isoprothiolane, mepronil, nuarimol, probenazole, proquinazid, pyrifenox, pyroquilon, quinoxyfen, silthiofam, thiabendazole, thifluzamide, thiophanate-methyl, tiadinil, tricyclazole or triforine,
- copper fungicides, such as Bordeaux mixture, copper acetate, copper oxychloride or basic copper sulfate,
- nitrophenyl derivatives, such as binapacryl, dinocap, dinobuton or nitrophthal-isopropyl,
- phenylpyrroles, such as fenpiclonil or fludioxonil,
- sulfur,

- other fungicides, such as acibenzolar-S-methyl, benthiavalicarb, carpropamid, chlorothalonil, cyflufenamid, cymoxanil, dazomet, diclomezine, diclocymet, diethofencarb, edifenphos, ethaboxam, fenhexamid, fentin acetate, fenoxanil, ferimzone, fluazinam, fosetyl, fosetyl-aluminum, iprovalicarb, hexachlorobenzene, metrafenone, pencycuron, propamocarb, phthalide, tolclofos-methyl, quintozene or zoxamide,
- strobilurins, such as azoxystrobin, dimoxystrobin, fluoxastrobin, kresoxim-methyl, metominostrobin, orysastrobin, picoxystrobin, pyraclostrobin or trifloxystrobin,
- sulfenic acid derivatives, such as captafol, captan, dichlofluanid, folpet or tolylfluanid,
- cinnamides and analogous compounds, such as dimethomorph, flumetover or flumorph.

Synthesis examples

The procedures described in the synthesis examples below were used to prepare further compounds by appropriate modification of the starting compounds. The compounds thus obtained are listed in the tables below, together with physical data.

Example 1: N'-[5-Chloro-6-(2,4,6-trifluorophenyl)(1,2,4-triazolo[1,5-a]pyrimidin-7-yl)]-N,N-dimethylformamidine

3 ml of dimethylformamide were initially charged in a flask and cooled to –8°C, 0.5 ml of phosphoryl chloride ($POCl_3$) was added dropwise and the mixture was stirred at -8°C for 5 min. A solution of 336 mg of 7-amino-5-chloro-6-(2,4,6-trifluorophenyl)-triazolo[1,5-a]pyrimidine hydrochloride in 1 ml of dimethylformamide and 0.14 ml of triethylamine was then added. After 1 h, cooling was removed and the mixture was stirred for 72 h. The reaction mixture was then poured onto ice-water and made alkaline using concentrated ammonia, and the precipitate formed was filtered off with suction. This gave, in a yield of 66%, the title compound of melting point 188-190°C.

The compounds of the formula I-A listed in Table 1 were prepared in an analogous manner (examples 2 and 3).

Table 1:

No.	Y-R^1	X-R^2	R^3	R^4	R^5	m.p.[°C]
1	-$N(CH_3)_2$	H	2,4,6-trifluorophenyl	Cl	H	188-190
2	1-piperidinyl	H	2,4,6-trifluorophenyl	Cl	H	112-115
3	1-pyrrolidinyl	H	2,4,6-trifluorophenyl	Cl	H	137-142*

m.p. melting point
* 85% pure

Example 4: N-[5-Chloro-6-(2,4,6-trifluorophenyl)(1,2,4-triazolo[1,5-a]pyrimidin-7-yl)]acetamide

18 ml of toluene, 0.3 ml of triethylamine, 88 mg of acetyl chloride and 250 mg of 7-amino-5-chloro-6-(2,4,6-trifluorophenyl)triazolo[1,5-a]pyrimidine hydrochloride were stirred at 120°C for 12 h. The mixture was cooled to room temperature and concentrated under reduced pressure, which gave a beige residue. This was taken up in dichloromethane, and the mixture was washed with water. The organic phase was concentrated under reduced pressure, which gave, in a yield of 31%, the title compound as a beige solid of melting point 108-111°C.

Example 5: N-[5-chloro-6-(2,4,6-trifluorophenyl)(1,2,4-triazolo-[1,5-a]pyrimidin-7-yl)]propionamide

Using propionyl chloride instead of acetyl chloride, the process from example 4 gave the title compound of melting point 162-165°C.

Examples of the action against harmful fungi

The fungicidal action of the compounds of the formula I was demonstrated by the following experiments:

The active compounds were prepared separately as a stock solution with 0.25% by weight of active compound in acetone or DMSO. 1% by weight of the emulsifier Uniperol® EL (wetting agent having emulsifying and dispersing action based on ethoxylated alkylphenols) was added to this solution, and the mixture was diluted with water to the desired concentration.

Use example 1 - Activity against early blight caused by *Alternaria solani*

Leaves of tomato plants of the cultivar "Goldene Prinzessin" were sprayed to runoff point with an aqueous suspension having the concentration of active compound stated below. The next day, the treated plants were infected with a spore suspension of *Alternaria solani* in a 2% strength aqueous biomalt solution having a density of 0.17×10^6 spores/ml. The test plants were then placed in a water-vapor-saturated chamber at temperatures of from 20 to 22°C. After 5 days, the disease on the untreated, but infected plants had developed to such an extent that the infection could be determined visually.

In this test, the plants which had been treated with 250 ppm of the active compounds from example 1, 2 or 3 showed an infection of less than or equal to 1% whereas the untreated plants were 80% infected.

Use example 2 – Activity against net blotch of barley caused by *Pyrenophora teres*, 1 day protective application

Leaves of potted barley seedlings of the cultivar "Igri" were sprayed to runoff point with an aqueous suspension having the concentration of active compound stated below. 24 hours after the spray coating had dried on, the plants were inoculated with an aqueous spore suspension of *Pyrenophora [syn. Drechslera] teres*, the net blotch pathogen. The plants were then placed in a greenhouse at temperatures between 20 and 24°C and 95 to 100 % relative atmospheric humidity. After 6 days, the extent of the mildew development was determined visually in % by the infected leaf area.

In this test, the plants which had been treated with 250 ppm of the active compounds from example 1, 2 or 3 showed an infection of ≤ 10%, whereas the untreated plants were 100% infected.

Use example 3 – Activity against late blight on tomatoes caused by *Phytophthora infestans*, protective application.

Leaves of potted tomato plants were sprayed to runoff point with an aqueous suspension having the concentration of active compound stated below. The next day, the leaves were infected with an aqueous spore suspension of *Phytophthora infestans*. The plants were then placed in a water vapor-saturated chamber at temperatures between 18 and 20°C. After 6 days, the blight on the untreated, but infected control plants had developed to such an extent that the infection could be determined visually in %.

In this test, the plants which had been treated with 250 ppm of the active compound from example 5 showed an infection of less than or equal to 15%, whereas the untreated plants were 70% infected.

Use example 4 – Protective activity against rice blast caused by *Pyricularia oryzae*, microtiter test.

The active compounds were formulated separately as a stock solution and with a concentration of 10 000 ppm in DMSO. The active compounds were diluted with water to the stated concentration.

50 µl of the required active compound concentration were pipetted into a mitrotiter plate (MTP). Inoculation was then carried out using 50 µl of an aqueous spore suspension of *Pyricularia oryzae*. The plates were placed in a water vapor-saturated chamber at

temperatures of 18°C. Using an absorption photometer, the microtiter plates were measured at 405 nm on day 7 after the inoculation.

The measured parameter was compared to the growth of the active compound-free control and the blank value to determine the relative growth in % of the pathogens in the individual active compounds.

In this test, when 125 ppm of the active compound from example 4 were used, the relative growth of the spore suspension was less than or equal to 1%.